AD-A257 781

STRUCTURED

LSA TASK 301

FUNCTIONAL REQUIREMENTS IDENTIFICATION

SUBTASK 301.2.4.1

FAILURE MODE, EFFECT, & CRITICALITY ANALYSIS (FMECA)

APJ 966-208

APJ

MILITARY & SCIENTIFIC
RESEARCH

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This report is one of a series presenting the Structured Analysis for the Logistic Support Analysis (LSA) Task and the Integrated Logistic Support (ILS) Element. Included are the System Analysis for the LSA Subtask 301.2.4.1, "Failure Mode, Effects, and Criticality Analysis (FMECA)", with the corresponding description of the processes, data flows, data stores, external entities involved on each. An overview of the Structured Analysis and its place in the overall systems development process, is also presented, as well as a guide to the overall FMECA process of the LSA Task analysis procedures.

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    MODE, EFFECTS, AND CRITICALITY ANALYSIS.

STRUCTURED ANALYSIS

LSA TASK 301

FUNCTIONAL REQUIREMENTS IDENTIFICATION

SUBTASK 301.2.4.1

FAILURE MODE, EFFECTS, & CRITICALITY ANALYSIS (FMECA)

under

CONTRACT DAAA21-86-D-0025

DTIC QUALITY INSPECTED 4

for

HQ US AMCCOM
INTEGRATED LOGISTIC SUPPORT OFFICE
AMSMC-LSP
ROCK ISLAND, IL

AMERICAN POWER JET COMPANY

RIDGEFIELD, NJ   **FALLS CHURCH, VA**

FALLSTON, MD

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FOREWORD

APJ, under contract to HQs, AMCCOM, has initiated the automation of the LSA Tasks (MIL-STD-1388-1) and the assessment of the ILS elements (AR 700-127). A major goal is to unify military and contractor approach to the performance of ILS and LSA.

Detailed to meet all requirements of ILS and LSA, the automated process will continue to provide the flexibility in selecting tasks and elements to be addressed at each life cycle stage. A major advantage of this approach is to insure that application of each task element is consistent with prescribed Army policies and procedures.

This report is one of a series presenting the Structured Analysis of each LSA Task and ILS Element. Structured Analysis comprises a description of the process being automated in terms which facilitate system design and subsequent programming. It is increasingly the preferred approach in both industry and Government.

This Technical Note reports on the Data Flow Diagrams (DFDs) of LSA Task 301.2.4.1, "Failure Mode, Effects, and Criticality Analysis (FMECA)", and provides definitions of the processes, data flows, data stores, and external entities involved on each DFD. The report provides an overview of the LSA Task analysis procedures and a guide to the overall FMECA process.

To view this work in context, this report also presents a brief overview of Structured Analysis and its place in the overall systems development process. The overview and certain portions of the introductory text are repeated verbatim in every report in this series so that each one can stand alone.

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INTRODUCTION

PURPOSE

The purpose of this report series is to present the results of the APJ efforts under Contract DAAA21-86-D-0025 for coordination with the AMCCOM Program Manager prior to in-depth structured design of ILS and LSA functions and processes. Subtask 301.2.4.1, "Failure Mode, Effects and Criticality Analysis (FMECA)" is addressed in this report.

BACKGROUND

The Department of the Army has a requirement for management control over contractor and Government agency response to the requirements of AR 700-127, "Integrated Logistic Support", and MIL-STD-1388-1, "Logistic Support Analysis". HQs AMCCOM has initiated action to structure each of the LSA tasks, the assessment of each ILS element, the form of the results, and the detailed processes to insure consistency with current Army policies, procedures, and techniques.

This approach (undertaken by AMCCOM and APJ) will insure uniformity in efforts and products, reproducibility of analyses, and a well-defined structure which can be coordinated among all participants in the logistic process to arrive at common understanding and procedures.

SCOPE

LSA Task 301 concerns the identification of materiel operational and functional requirements and the tasks necessary to operate and maintain the new system/equipment in its life cycle environment.

Thus, subtasks pertain to overall functional requirements, unique functional requirements, reliability centered maintenance, and risk analyses. These will be treated in future reports in this series.

This report summarizes the results of the Structured Analysis of the Failure Mode, Effects, and Criticality Analysis (FMECA), LSA Subtask 301.2.4.1 and presents the associated Data Flow Diagrams (DFDs) developed from the Structured Analysis. The portions of the Data Dictionary relating to labels, names, descriptions, processes, data flows, data stores, and external entities are included in their present degree of completeness. (The Data Dictionary is a "living document" that evolves through the analysis and design process).

To place this work in context, this report presents a brief overview of Structured Analysis and its place in the overall systems design process to assist the reader who may not be fully briefed on the symbols and conventions used.

LSA SUBTASK 301.2.4.1 DESCRIPTION

LSA Subtask 301.2.4.1 concerns the performance of the Failure Mode, Effects, and Criticality Analysis (FMECA), (or equivalent analysis), which is the basis for identifying and documenting all corrective and preventive maintenance task requirements, i.e.,:

-Estimation of failure probabilities for each significant
    piece/part/equipment
-Engineering evaluation of all potential failure modes
-Assessment of failure criticality
-Evaluation of failure detection criteria.

The analysis results are documented on system and equipment hardware and software to the indenture level consistent with the design progression and as specified by the requiring authority. To be effective, the FMECA is iterative to correspond with the nature of the design process itself. Development and definition of the FMECA are performed for each system and equipment alternative under consideration in its intended operational and local environment. Results are identified to a level commensurate with design and operational scenario development.

The extent of effort and degree of sophistication of the approach used in the FMECA will depend on the nature and requirements of the individual developmental system and equipment program. However, any tailoring of the FMECA process must be carefully reviewed to insure that the FMECA still contributes to program decisions.

The procedures for performing a Failure Mode, Effects, and Criticality Analysis (FMECA) are set forth in MIL-STD 1629, and are described as five separate tasks:

Task 101 - Failure Mode and Effects Analysis (FMEA)

Task 102 - Criticality Analysis

Task 103 - FMECA-Maintainability Analysis

Task 104 - Damage Mode and Effects Analysis (DMEA)

Task 105 - Failure Mode, Effects, and Criticality

Analysis Plan.

The FMECA is required during the concept exploration phase, and provides the major source of input to LSA Subtasks 301.2.4.2 (Reliability Centered Maintenance), and 301.2.4.3 (Operations and Other Support Tasks). The FMECA will also provide significant inputs to LSA Tasks 401 (Task Analysis), 302 (Support System Alternatives) and 303 (Evaluation of Alternatives and Tradeoff Analysis). Furthermore, it constitutes a major consideration in assessment of the ILS Element "Design Influence" and any LSA Task or ILS Element assessment which addresses maintainability, safety analysis, survivability and vulnerability, logistics support analysis, maintenance plan analysis, and failure detection and isolation subsystem design.

The FMECA task definitions from MIL-STD 1388-1A are included as Annex A.

APPROACH

The APJ approach to structured design of the LSA is:

   1. Scope the process defined in MIL-STD-1388-1A in the context of the other LSA tasks.

   2. Review the guidance provided in AMC PAM 700-11, "Logistics Support Analysis Review Team Guide".

   3. Review the applicable Data Item Descriptions (DIDs) from the Acquisition Management Systems and Data Requirements Control List (AMSDL) published by the Department of Defense.

   4. Review all source documents referenced in the AMSDL as applicable to the referenced DIDs of interest.

   5. Apply staff experience in logistics support analysis to assure that the intent of the task has been addressed.

   6. Validate results in discussions with Army activities and personnel directly involved in the applicable or related LSA tasks.

Structured Analysis and preparation of Data Flow Diagrams (DFDs) was further assisted by the application of Structured Analysis software. Licensed by Index Technology Corporation, Excelerator provides for automated tracking of names, labels, descriptions, multiple levels of detail in the data flow diagrams, and industry standards in symbols and diagramming practices.

Following completion of the draft DFDs, the diagrams and data dictionary were made available to working Army logisticians currently (or recently) directly involved in the application of the same LSA tasks in current Army development programs. Comments were solicited relative to the logic of the processes described, the scope and details of the indicated approaches, and the outputs implied by the LSA task requirements.

Draft products were well received by the external reviewers, and requests have been made for copies of the DFDs for in-house use in organizing ILS and LSA efforts. Comment was also received that the DFDs will be a useful training tool for apprentice logisticians, since they provide an overall picture of the total task and a uniform approach to its fulfillment.

STRUCTURED ANALYSIS AND DESIGN

Structured Analysis and Structured Systems Design evolved from the need to define and demonstrate the underlying logical functions and requirements of large systems. The concept of Structured Analysis involves building a logical (non-physical) model of a system, using graphic techniques which enable users, analysts, and designers to get a clear and common picture of the system and how its parts fit together to meet the user's needs. It is followed by structured design, and then by programming, and test and validation.

The Structured Analysis and Structured Systems Design process, sometimes referred to as "Structured Systems Analysis and Design (SSAD)", is well documented and widely utilized in Government and industry. As stated in "The Practical Guide to Structured Systems Design" (Meilir Page-Jones, Prentice-Hall, Englewood Cliffs, NJ, 1980):

..."Structured Design is disciplined approach to computer system design, an activity that in the past has been notoriously haphazard and fraught with problems.

"1. Structured Design allows the form of the problem to guide the form of the solution.

"2. Structured Design seeks to conquer the complexity of large systems by means of partitioning the system into "black boxes," and by organizing the black boxes into hierarchies suitable for computer implementation.

"3. Structured Design uses tools, especially graphic ones, to render systems readily understandable.

"4. Structured Design offers a set of strategies for developing a design solution from a well defined statement of a problem.

"5. Structured Design offers a set of criteria for evaluating the quality of a given design solution with respect to the problem to be solved.

"Structured Design produces systems that are easy to understand, reliable, flexible, long lasting, smoothly developed, and efficient to operate - and that WORK...."

The organization of Structured Analysis and its relationship to Structured System Design is shown on Figure 1.
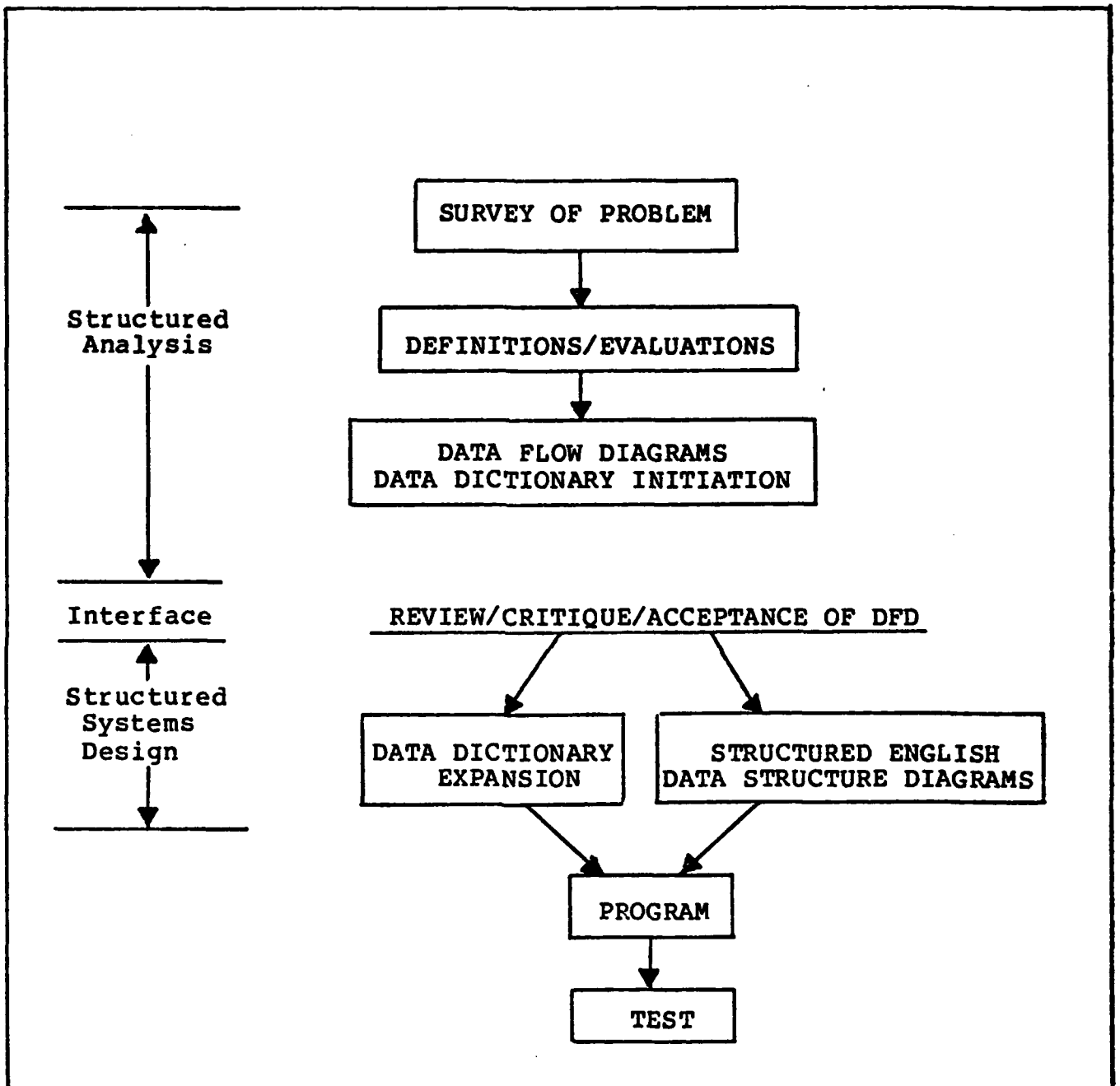
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                    ┌─────────────────────────┐
                    │    SURVEY OF PROBLEM     │
                    └─────────────────────────┘
                                 │
                                 ▼
 Structured         ┌─────────────────────────┐
 Analysis           │  DEFINITIONS/EVALUATIONS │
                    └─────────────────────────┘
                                 │
                                 ▼
                    ┌─────────────────────────┐
                    │    DATA FLOW DIAGRAMS    │
                    │ DATA DICTIONARY INITIATION│
                    └─────────────────────────┘


 Interface          REVIEW/CRITIQUE/ACCEPTANCE OF DFD
                         ╱                    ╲
 Structured            ▼                        ▼
 Systems        ┌───────────────┐     ┌──────────────────────┐
 Design         │ DATA DICTIONARY│     │  STRUCTURED ENGLISH  │
                │   EXPANSION    │     │ DATA STRUCTURE DIAGRAMS│
                └───────────────┘     └──────────────────────┘
                         ╲                    ╱
                           ▼                ▼
                        ┌──────────────────┐
                        │     PROGRAM      │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                        │      TEST        │
                        └──────────────────┘
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Figure 1.   Structured Analysis and Structured
            ·Systems Design Organization

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LSA SUBTASK 301.2.4.1 - DATA FLOW DIAGRAMS

The Data Flow Diagram is a tool that shows flow of data, i.e., data flows from sources and is processed by activities to produce intermediate or final products.

The DFD provides a useful and meaningful partitioning of a system from the viewpoint of identification and separation of all functions, actions, or processes so that each can be introduced, changed, added, or deleted with minimal disruption of the overall program, i.e., it emphasizes the underlying concept of modularity and identifiable transformations of data into actionable products.

A series of fifteen (15) DFDs have been developed to structure the FMECA LSA subtasks:

1.	301.2.4.1	FMECA Overview
2.	301.2.4.1.1A	Conduct FMEA Analysis (FMECA Task 101)
3.	301.2.4.1.1A1B	Create System Definition
4.	301.2.4.1.1A1B3C	Create Functional Block Diagram
5.	301.2.4.1.1A1B5C	Create Reliability Block Diagram
6.	301.2.4.1.1A4B	Determine Failure Effects
7.	301.2.4.1.1A9B	Determine LSAR Data Requirements
8.	301.2.4.1.2A	Conduct Criticality Analysis (FMECA Task 102)
9.	301.2.4.1.2A4B	Perform Quantitative Criticality Analysis
10.	301.2.4.1.3A	Conduct FMECA Maintenance Analysis (FMECA Task 103)
11.	301.2.4.1.4A	Conduct DMEA Analysis FMECA Task 104)
12.	301.2.4.1.4A8B	Determine Damage Effect
13.	301.2.4.1.5A	Create FMECA Plan (FMECA Task 105)
14.	301.2.4.1.5A2B	Develop Ground Rules and Assumptions
15.	301.2.4.1.6A	Consolidate FMECA Analysis

Each DFD is keyed to the specific task (LSA in this case) through the identification number assigned in the lower right hand box. The alpha codes indicate the level of indenture or explosion below the top level, i.e.,:

```
Top Level.........................LSA DFD 301.2.4.1
     First Indenture..............LSA DFD 301.2.4.1.1A
          Second Indenture.......LSA DFD 301.2.4.1.1A1B
               Third Indenture...LSA DFD 301.2.4.1.1A1B3C
```

Each DFD makes reference to the basic LSA task it addresses, as well as the level of indenture (explosion) of the DFD. For example, the first or top level DFD, "301.2.4.1", refers to the paragraph in MIL-STD 1388-1A which describes the task. One of the processes (bubbles) on the top level diagram (301.2.4.1.1, "Conduct FMEA Analysis - FMECA Task 101") is expanded and identified as "301.2.4.1.1A", i.e., it is a second level of 301.2.4.1.1 (Alpha "A" indicates the second level).

In turn, DFD 301.2.4.1.1A has a process (bubble) 301.2.4.1.1A1, "Create System Definition", which is further exploded on DFD 301.4.1.1A1B, a third level explosion of the basic DFD 301.2.4.1.1A (Alpha "B" indicates the third level explosion). This process is further exploded to a fourth level, 301.2.4.1.1A1B3C (Alpha "C" indicates the fourth level explosion).

Four standard symbols are used in the DFD drawing (see Figure 2).

A copy of each DFD is presented in Annex B, accompanied by the Data Dictionary process elements. Each entry made in the DFDs has a corresponding entry in the Data Dictionary, immediately following each of the DFDs. This Technical Note presents only those Data Dictionary entries necessary for the coordination of the overall concept and details of the processes. To facilitate review of the diagrams, data flow identifications, process, and data store descriptions are provided. As noted above, they will continue to evolve and be expanded in the System Design phase.

As the DFDs progress through Structured System Design, the Data Dictionary will continue to be expanded and completed. Since they are working documents rather than final submissions, only minimum effort has been devoted to editorial niceties, e.g., spelling, typography, etc.

REPRESENTS A PROCESS, FUNCTION, OR ACTION

REPRESENTS A DATA STORE OR A DATA FILE - OFTEN IDENTIFIED AS REPOSITORY OF INFORMATION OF A SPECIFIC TYPE

REPRESENTS A DATA ELEMENT FLOW INDICATING OUTPUT FROM ONE PROCESS AND INPUT TO ANOTHER PROCESS

REPRESENTS AN EXTERNAL ENTITY - AN ACTIVITY NOT A PART OF THE SYSTEM/PROCESS BEING MODELED.
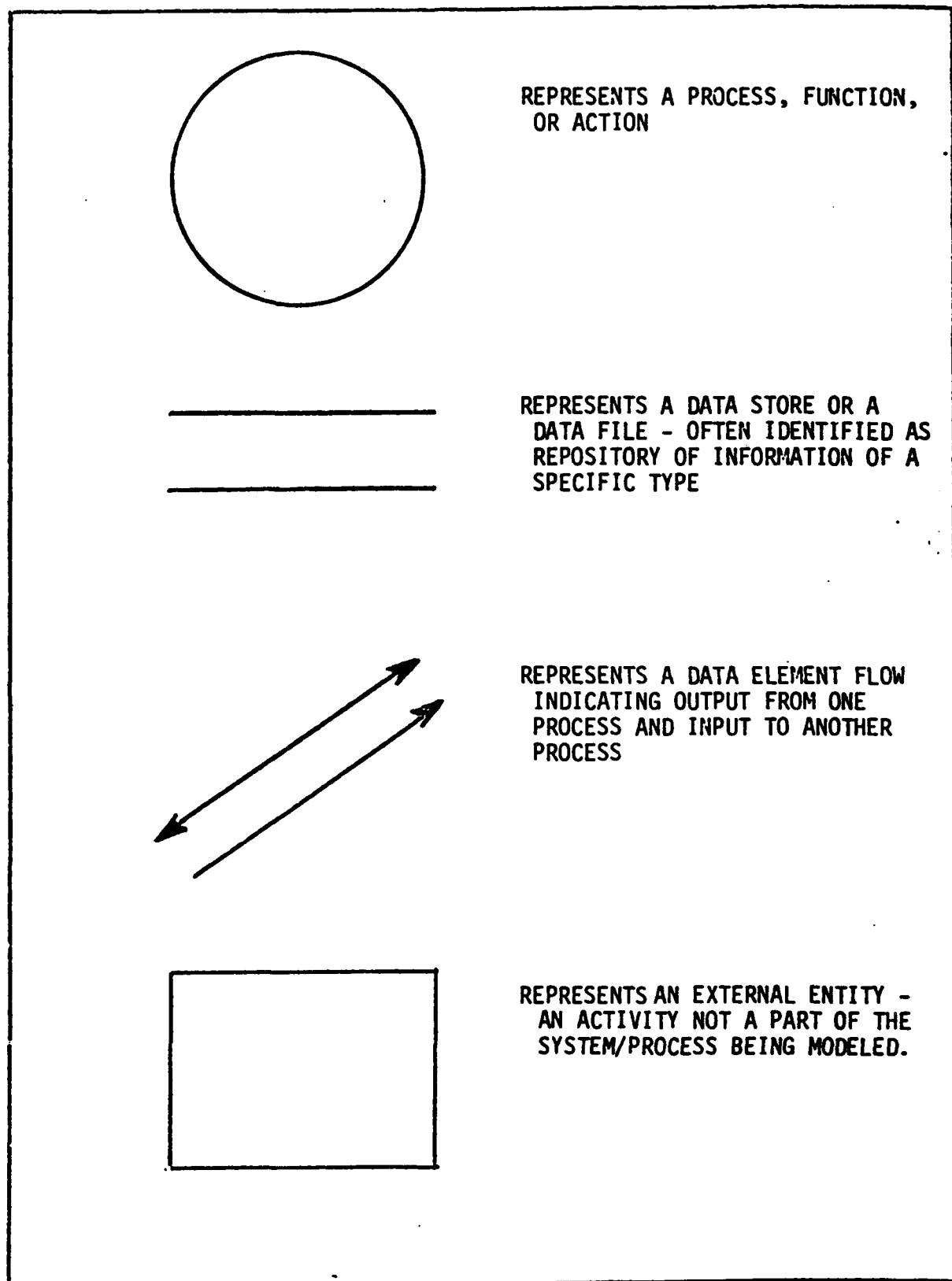
Figure 2. STANDARD DFD SYMBOL DEFINITIONS

APPENDIX A

LSA TASK 301

FUNCTIONAL REQUIREMENTS IDENTIFICATION

APPENDIX A
LSA TASK 301 - FUNCTIONAL REQUIREMENTS IDENTIFICATION 1/

301.1 **PURPOSE**: To identify the operations and support functions that must be performed for each system and equipment alternative under consideration, and then identify the tasks required to operate and maintain the new system and equipment in its intended environment.

301.2 **TASK DESCRIPTION**:

301.2.4 -Identify the operations and maintenance tasks for the system and equipment based on the identified functional requirements. Tasks shall be identified to a level commensurate with design and operational scenario development and shall cover all functions which require logistic support resources. Preventive maintenance, corrective maintenance, operations and other support tasks (such as preparation for operation, post operation, calibration, and transportation) shall be identified by the following methods:

301.2.4.1 -The results of the Failure Mode, Effects, and Criticality Analysis (FMECA), or equivalent analysis, shall be analyzed to identify and document corrective maintenance task requirements. The FMECA, or equivalent, shall be documented on system and equipment hardware and software, to the indenture level consistent with the design progression, and as specified by the requiring authority. The Logistic Support Analysis Report (LSAR), or equivalent format approved by the requiring authority, shall be used for the FMECA documentation.

1/ Abstracted verbatim from MIL-STD-1388-1A, April 11, 1983, Page 31.

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│                                                   │
│                  APPENDIX B                        │
│  SUBTASK 301.2.4.1 - DATA FLOW DIAGRAMS            │
│                    AND                             │
│              DATA DICTIONARY                       │
│                                                   │
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Name	Label	Description
301.2.4.1.1	CONDUCT FMEA ANALYSIS TASK 101	ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS PURPOSE OF PROCESS: STUDY THE RESULTS OR EFFECTS OF ITEM FAILURE ON SYSTEM OPERATION AND CLASSIFY EACH POTENTIAL FAILURE ACCORDING TO ITS SEVERITY. THE TASK IS DETAILED FURTHER IN THE EXPLOSION OF THIS PROCESS. SOURCE OF PROCESS: MIL-STD-1629A
301.2.4.1.2	CONDUCT CRITICAL ANALYSIS TASK 102	ACRONYM: CA - CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF PROCESS: RANK EACH POTENTIAL FAILURE MODE IDENTIFIED IN THE FMEA TASK 101, ACCORDING TO THE COMBINED INFLUENCE OF SEVERITY CLASSIFICATION AND ITS PROBABILITY OF OCCURRENCE BASED UPON THE BEST AVAILABLE DATA. THE TASK IS DETAILED FURTHER IN THE EXPLOSION OF THIS PROCESS. SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.3	CONDUCT FMECA-MNT ANALYSIS TASK 103	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
		          MPA - MAINTENANCE PLANNING ANALYSIS
		          LSA - LOGISTIC SUPPORT ANALYSIS
		
		PURPOSE OF PROCESS: THE FMECA-MAINTAINABILITY INFORMATION ANALYSIS PROVIDES EARLY CRITERIA FOR MAINTENANCE PLANNING ANALYSIS (MPA), LOGISTIC SUPPORT ANALYSIS (LSA), TEST PLANNING, INSPECTION AND CHECKOUT REQUIREMENTS, AND IDENTIFIES MAINTAINABILITY DESIGN FEATURES REQUIRING CORRECTIVE ACTION. THE TASK IS DETAILED FURTHER IN THE EXPLOSION OF THIS PROCESS.
		SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4	3CONDUCT DMEA ANALYSIS TASK 104	ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS PURPOSE OF PROCESS: PROVIDE EARLY CRITERIA FOR SURVIVABILITY AND VULNERABILITY ASSESSMENTS. THE DMEA PROVIDES DATA RELATED TO DAMAGE CAUSED BY SPECIFIED THREAT MECHANISMS AND THE EFFECTS ON WEAPON SYSTEM OPERATION AND MISSION ESSENTIAL FUNCTIONS. THE TASK IS DETAILED FURTHER IN THE EXPLOSION OF THIS PROCESS. SOURCE OF PROCESS: MIL-STD-1629A
301.2.4.1.5	3 CREATE FMECA PLN TASK 105	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF PROCESS: DOCUMENT ANALYST'S PLANNED ACTIVITIES TO IMPLEMENT THE FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS TASKS IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS IN THE DEVELOPMENT CONTRACT AND THE COORDINATED DEVELOPMENT PLANS. TASK IS FURTHER DETAILED IN THE EXPLOSION OF THIS PROCESS. THE FMECA PLAN REPORT SHALL BE WRITTEN IN ACCORDANCE WITH DI-R-7086, FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PLAN. SOURCE OF PROCESS: MIL-STD-1629A, DI-R-7086

Name	Label	Description
301.2.4.1.6	CONSOLIDT FMECA ANALYSIS	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

PURPOSE OF PROCESS: ASSEMBLE THE DATA REQUIRED FOR THE FINAL FMECA REPORT. THIS TASK IS FURTHER DETAILED THROUGH THE EXPLOSION OF THIS PROCESS. THE FMECA FINAL REPORT SHALL BE WRITTEN IN ACCORDANCE WITH DI-R-7085 FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS REPORT. SOURCE OF PROCESS: MIL-STD-1629A, DI-R-7085

Name	Label	Description
ACQ/SCH	ACQUISITION SCHEDULE	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
		PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE SCHEDULED ACQUISITION OF OTHER PROGRAM ELEMENTS RELATED TO THE FMECA ANALYSIS.
		SOURCE OF DATA: CONTRACT REQUIREMENTS
APP/FAIL/RT/DT	APPROVED FAILURE RTE DATA SOURCE	ACRONYM:
		PURPOSE OF DATA: INFORM THE ANALYST OF THE FAILURE RATE DATA SOURCES APPROVED BY THE PROCURING ACTIVITY AND REQUIRED FOR THE CRITICALITY ANALYSIS, E.G., HANDBOOKS, REPORTS, TEST AND/OR OPERATIONAL DATA, OR OTHER REFERENCE MATERIAL.
		SOURCE OF DATA: THE PROCURING ACTIVITY
AUTO/LSAR/RULES	AUTOMATED LSAR RULES (3 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		PURPOSE OF DATA: SUPPLY THE ANALYST WITH RULES GOVERNING THE CREATION OF CODES RELATING TO THE LSAR. RULES ARE SUPPLIED FOR THE FOLLOWING:
		1. FAILURE MODE INDICATOR
		2. MISSION PHASE CODE
		3. FAILURE MODE CODE
		SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS
CA/DT/W/MATR	CRITICALITY ANALYSIS DATA W/MTX	ACRONYM: CA - CRITICALITY ANALYSIS FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER
		PURPOSE OF DATA: SEND TO THE FMECA REPORT ASSEMBLY. DATA CONTAINS THE RESULTS OF THE CA WHICH INCLUDE THE CA WORKSHEET AND THE MATRIX DEVELOPED THEREFROM. WORKSHEET SHALL CONTAIN THE FOLLOWING DATA FOR THE QUALITATIVE APPROACH:
		1. IDENTIFICATION NUMBER (LCN)
		2. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
		3. FUNCTION
		4. FAILURE MODES AND CAUSES
		5. MISSION PHASE/OPERATIONAL MODE
		6. SEVERITY CLASSIFICATION
		7. FAILURE EFFECT PROBABILITY
		FOR THE QUANTITATIVE APPROACH, THE FAILURE EFFECT PROBABILITY DATA COLUMN IS DROPPED AND THE FOLLOWING DATA IS ADDED TO THAT DESCRIBED ABOVE:
		7. FAILURE RATE DATA SOURCE
		8. FAILURE MODE RATIO
		9. FAIILURE RATE
		10. OPERATING TIME
		11. FAILURE MODE CRITICALITY NUMBER
		12. ITEM CRITICALITY NUMBER
		`13. REMARKS
		THE MATRIX SHALL BE DRAWN AS SHOWN IN MIL-STD-1629.
		SOURCE OF DATA: PROCESS 301.2.4.1.2 (CONDUCT CRITICALITY ANALYSIS (TASK 102))

Name	Label	Description

CA/LSAR/CARDB16	CRITICALITY ANALYSIS DT LSAR CD B16	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER
		
		PURPOSE OF DATA: TRANSFER REQUIRED CRITICALITY ANALYSIS DATA TO THE APPROPRIATE LSAR BLOCK LOCATION WITHIN CARD B16. THE DATA READS AS FOLLOWS:
		     1. IDENTIFICATION NUMBER [LCN] (BLOCK 1)
		     2. FAILURE RATE DATA SOURCE/FAILURE PROBABILITY (BLOCK 5)
		     3. FAILURE PROBABILITY (BLOCK 8)
		     4. FAILURE MODE RATIO (BLOCK 9)
		     5. FAILURE RATE (BLOCK 10)
		     6. OPERATING TIME (BLOCK 11)
		     7. FAILURE MODE CRITICALITY NUMBER (BLOCK 12)
		     8. ITEM CRITICALITY NUMBER (BLOCK 13)
		SOURCE OF DATA: PROCESS 301.2.4.1.2 (CONDUCT CRITICALITY ANALYSIS)

CA/LSAR/CARDB17	FMECA-MAINT ANLYSIS FOR LSAR CARD B17	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER
		
		PURPOSE OF DATA: TRANSFER THE REQUIRED FMECA-MAINTENANCE DATA TO THE APPROPRIATE LSAR BLOCK LOCATION WITHIN CARD B17. THE DATA READS AS FOLLOWS:
		     1. IDENTIFICATION NUMBER [LCN] (BLOCK 1)
		     2. FAILURE PREDICTABILITY (BLOCK 7)
		SOURCE OF DATA: PROCESS 301.2.4.1.3 (CONDUCT FMECA-MAINTENANCE ANALYSIS)

CD/NUM/SYS	CODE NUMBERING SYSTEM	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: SUPPLY THE ANALYST WITH A NUMBERING SYSTEM SUGGESTED BY THE PROCURING ACTIVITY FOR THE FMECA APPLICATION. THE SYSTEM SHOULD MATCH THAT OF THE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. THE NUMBERING SYSTEM SHALL CONSISTENT WITH THAT OF MIL-STD-1388-2, THE LOGISTIC CONTROL NUMBER. SOURCE OF DATA: POLICY FILES
COD/SYS	CODING SYSTEM	ACRONYMS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE A SYSTEM THAT HAS CONSISTENT IDENTIFICATION OF INVESTIGATED SYSTEM FUNCTIONS AND EQUIPMENT FOR TRACKING FAILURE MODES. ANALYST SHALL ADHERE TO THE CODING SYSTEM OF MIL-STD-1388-2 (LCN), BASED ON THE HARDWARE BREAKDOWN STRUCTURE OF MIL-STD-881, WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR OTHER SIMILAR UNIFORM SYSTEMS. THE CODING SYSTEM SHALL BE CONSISTENT WITH THE RELIABILITY AND FUNCTIONAL BLOCK DIAGRAM NUMBERING SYSTEM TO PROVIDE COMPLETE VISIBILITY OF EACH FAILURE MODE AND ITS RELATIONSHIP TO THE SYSTEM. SOURCE OF DATA: PROCESS 301.2.4.1.5A4 (IDENTIFY CODING SYSTEM)

Name	Label	Description

DES/DAT/DRWGS   DESIGN DATA   ACRONYMS:
                   & DRAWINGS

PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT
PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD
DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT
SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE
SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR
SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS.
SOURCE OF DATA: SYSTEM DETAIL DESIGNER

DMEA/DTA   DMEA DATA   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                              FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                                LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSPORT THE COMPLETED DMEA WORKSHEET TO THE FMECA
FINAL REPORT CONSOLIDATION. THE DATA SHALL CONTAIN ALL OF THE
FOLLOWING:

       a. IDENTIFICATION NUMBER (LCN)
       b. ITEM/FUNCTIONAL IDENTIFICATION
       c. FUNCTION
       d. FAILURE MODES AND CAUSES
       e. MISSION PHASE/OPERATIONAL MODE
       f. SEVERITY CLASSIFICATION
       g. DAMAGE MODE
       h. DAMAGE EFFECTS
             1. LOCAL EFFECTS
             2. NEXT HIGHER LEVEL
             3. END EFFECTS
       i. REMARKS

THE DATA SHALL ALSO CONTAIN A CRITICAL COMPONENTS LISTING
DEVELOPED BY THE ANALYST IN PROCESS 301.2.4.1.4A5 (IDENTIFY CRITICAL
COMPONENTS).
SOURCE OF DATA: DMEA ANALYSIS (PROCESS 301.2.4.1.4)

DMEA/LSAR/CARDB13   DMEA DATA   ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                     FOR LSAR   LCN - LOGISTIC CONTROL NUMBER
                     CARD B13
                     (3 ENTRIES)   PURPOSE OF DATA: TRANSFER REQUIRED DMEA DATA TO ITS APPROPRIATE LSAR
BLOCK LOCATION WITHIN CARD B13, AS FOLLOWS:
             1. IDENTIFICATION NUMBER [LCN] (BLOCK 1)
             2. DAMAGE MODE (BLOCK 6)
             3. DAMAGE MODE INDICATOR (BLOCK 3)
SOURCE OF DATA: PROCESS 301.2.4.1.4 (CONDUCT DMEA ANALYSIS)

DMEA/LSAR/CARDB14   DMEA DATA   ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                     FOR LSAR   DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                     CARD B14   LCN - LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: TRANSFER REQUIRED DMEA DATA TO ITS APPROPRIATE LSAR
BLOCK LOCATION WITHIN CARD B14, AS FOLLOWS:
             1. IDENTIFICATION NUMBER (BLOCK 1)
             2. DAMAGE EFFECTS (BLOCK 6)
SOURCE OF DATA: PROCESS 301.2.4.1.4 (CONDUCT DMEA ANALYSIS)

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Name	Label	Description

DMEA/PLAN — DMEA PLAN

ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS

PURPOSE OF DATA: SUPPLY THE ANALYST WITH PLAN FOR COMPLETING THE DMEA FOR THE DEVELOPED WEAPON SYSTEM. THE WEAPON SYSTEM REQUIRES A NEW EVALUATION DUE TO CHANGES IT HAS UNDERGONE, OR CHANGES TO THE THREAT ENCOUNTERED.
SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS

DOC/FMEA — DOCUMENTATN FOR FMEA PROCESS (5 ENTRIES)

ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS

PURPOSE OF DATA: SUPPLY DOCUMENTATION PERTAINING TO PROCEDURES FOR DEVELOPMENT OF REPORTS AND TASKS WITHIN THE FMEA PROCESS. DOCUMENTS ARE AS LISTED BELOW:
  1. MIL-STD-881
  2. MIL-STD-882
  3. MIL-M-24100
  4. MIL-STD-756
  5. DI-S-3604/S-126-1
SOURCE OF DATA: POLICY FILES

ECP/ENG/DTA — ECP ENGNRNG DATA

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: PROVIDE THE ANALYST WITH ENGINEERING DATA NEEDED TO EVALUATE A DEVELOPED SYSTEM'S DMEA ANALYSIS. THE DATA WILL DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA WILL CONTAIN EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS. THIS DATA WILL IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION.
SOURCE OF DATA: ENGINEERING CHANGES PROPOSAL

FAIL/CRIT — FAILURE CRITERIA

ACRONYMS:

PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY.
SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)

FAIL/DET/METH — FAILURE DETECTION METHOD

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
          FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF DATA: PROVIDE THE ANALYST WITH INFORMATION PERTAINING TO THE FAILURE DETECTION MEANS NECESSARY TO COMPLETE THE FMECA MAINTAINABILITY WORKSHEET. THE FAILURE DETECTION MEANS SHALL CONTAIN DESCRIPTIONS OF METHODS BY WHICH OCCURRENCE OF THE FAILURE MODE MAY BE DETECTED BY THE OPERATOR.
SOURCE OF DATA: PROCESS 301.2.4.1.1A5 (DETERMINE FAILURE DETECTION METHODS)

Name	Label	Description

FAIL/RT/DAT   **FAILURE RTE DATA**   ACRONYMS:

PURPOSE OF DATA: ASSISTS THE ANALYST IN OBTAINING PERTINENT DATA REQUIRED IN THE CRITICALITY ANALYSIS. FAILURE RATE DATA USED FOR THE RELIABILITY AND MAINTAINABILITY ANALYSES REQUIRED BY CONTRACT SHALL BE THE SAME AS FOUND HERE, UNLESS OTHERWISE SPECIFIED BY THE PROCURING ACTIVITY. WHEN OTHER ANALYSES ARE NOT REQUIRED BY CONTRACT OR A FAILURE RATE DATA SOURCE HAS NOT BEEN SPECIFIED BY THE PROCURING ACTIVITY, FAILURE RATES AND FAILURE RATE ADJUSTMENT FACTORS (E.G. ENVIRONMENTAL AND QUALITY PI-FACTORS) SHALL BE DERIVED AS FOLLOWS:

    A. MIL-HDBK-217 SHALL BE THE PRIMARY SOURCE OF FAILURE RATE DATA FOR ELECTRONIC PARTS. BOTH THE BASE FAILURE RATE AND ALL FAILURE RATE ADJUSTMENT FACTORS SHALL BE IDENTIFIED.

    B. WHEN PARTS ARE SIMILAR TO THOSE LISTED IN MIL-HDBK-217, BASE FAILURE RATES SHALL BE SELECTED FROM THE HANDBOOK AND SHALL INCLUDE OTHER ADJUSTMENT FACTORS, SUCH AS SPECIAL QUALITY PI-FACTORS, AS MAY BE REQUIRED TO MODIFY THE HANDBOOK DATA FOR APPLICABILITY TO THE PARTICULAR PART.

    C. FAILURE RATE DATA FOR PARTS NOT COVERED BY MIL-HDBK-217 SHALL BE SELECTED FROM ALTERNATIVE DATA SOURCES.

THIS DATA IS USED IN PROCESS 301.2.4.1.2A4B2 AND 301.2.4.1.2A4B3, DETERMINING FAILURE MODE RATIOS AND PART FAILURE RATES, RESPECTIVELY. THIS DATA MAY BE IN THE FORM OF HANDBOOKS, TEST AND OPERATIONAL DATA, REPORTS, OR OTHER REFERENCE MATERIAL, AS APPLICABLE.

SOURCE OF DATA: HISTORICAL FILES

FM/MAINT/DTA   **FMECA MAINTENANCE DATA**   ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
               LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSFER TO THE FMECA FINAL REPORT. DATA SHALL COMPRISE A FMECA MAINTENANCE WORKSHEET, CONTAINING THE FOLLOWING:

    a. IDENTIFICATION NUMBER (LCN)
    b. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
    c. FUNCTION
    d. FAILURE MODES AND CAUSES
    e. FAILURE EFFECTS
        1. LOCAL EFFECTS
        2. NEXT HIGHER LEVEL
        3. END EFFECTS
    f. SEVERITY CLASSIFICATION
    g. FAILURE PREDICTABILITY
    h. FAILURE DETECTION MEANS
    i. BASIC MAINTENANCE ACTIONS
    j. REMARKS

SOURCE OF DATA: PROCESS 301.2.4.1.3 (CONDUCT FMECA MAINTENANCE ANALYSIS)

Name	Label	Description
FM/PLN/DTA	FMECA PLAN DATA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: REVEAL THE FMECA PLAN. THE PLAN SHALL CONTAIN SAMPLE WORKSHEET FORMATS, GROUND RULES, ANALYSIS ASSUMPTIONS, IDENTIFICATION OF THE LOWEST INDENTURE LEVEL OF ANALYSIS, CODING SYSTEM DESCRIPTION, FAILURE DEFINITIONS, AND IDENTIFICATION OF COINCIDENT USE OF THE FMECA BY RELIABLITY ORGANIZATIONS AND OTHER ORGANIZATION ELEMENTS. SOURCE OF DATA: PROCESS 301.2.4.1.5A6 (WRITE FMECA PLAN)

FM/REP	FMECA REPORT	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
		    FMEA - FAILURE MODE AND EFFECTS ANALYSIS
		    DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
		    CA - CRITICALITY ANALYSIS
		PURPOSE OF DATA: REVEAL THE FMECA ANALYSIS RESULTS FOR THE PURPOSE OF MODIFYING THE DESIGN. THE RESULTS OF THE FMEA AND OTHER RELATED ANALYSES SHALL BE DOCUMENTED IN A REPORT THAT IDENTIFIES THE LEVEL OF ANALYSIS, SUMMARIZES THE RESULTS, DOCUMENTS THE DATA SOURCES AND TECHNIQUES USED IN PERFORMING THE ANALYSIS, AND INCLUDES THE SYSTEM DEFINITION NARRATIVE, RESULTANT ANALYSIS DATA, AND WORKSHEETS. WORKSHEETS SHALL BE ORGANIZED TO: (1) DISPLAY THE HIGHEST INDENTURE LEVEL OF ANALYSIS, AND (2) PROCEED DOWN THROUGH DECREASING INDENTURE LEVELS OF THE SYSTEM. GROUND RULES, ANALYSIS ASSUMPTIONS, AND BLOCK DIAGRAMS SHALL BE INCLUDED, AS APPLICABLE, FOR EACH INDENTURE LEVEL ANALYZED.
		
		    INTERIM REPORTS SHALL BE AVAILABLE AT EACH DESIGN REVIEW TO PROVIDE COMPARISONS OF ALTERNATIVE DESIGNS AND TO HIGHLIGHT CATEGORY I AND CATEGORY II FAILURE MODES, POTENTIAL SINGLE FAILURE POINTS, AND PROPOSED DESIGN CORRECTIONS. FINAL REPORT SHALL REFLECT THE FINAL DESIGN AND PROVIDE IDENTIFICATION OF THE CATEGORY I AND CATEGORY II FAILURE MODES, THE POTENTIAL SINGLE FAILURE POINTS WHICH COULD NOT BE ELIMINATED FROM THE DESIGN.
		SOURCE OF DATA: PROCESS 301.2.4.1.6 (CONSOLIDATE FMECA ANALYSIS)
		        (MIL-STD-1629)

Name	Label	Description
FME/DTA	FMEA DATA	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR
TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA
IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL
NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS
TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET
DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN
THE DATA BANK:
            A. IDENTIFICATION NUMBER (LCN)
            B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
            C. FUNCTION
            D. FAILURE MODES AND CAUSES
            E. MISSION PHASE/OPERATIONAL MODE
            F. FAILURE EFFECTS
                a. LOCAL EFFECTS .
                b. NEXT HIGHER LEVEL
                c. END EFFECTS
            G. FAILURE DETECTION MEANS
            H. COMPENSATING PROVISIONS
            I. SEVERITY CLASS   .
            J. REMARKS
SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)

Name	Label	Description
FMEA/LSAR/CARDB13	FMEA DATA FOR LSAR CARD B13 (6 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
             LCN - LOGISTIC CONTROL NUMBER
             FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: TRANSFER THE REQUIRED FMEA DATA TO THE APPROPRIATE LSAR
BLOCK WITHIN CARD B13, AS FOLLOWS:
            1. IDENTIFICATION NUMBER [LCN] (BLOCK 1)
            2. MISSION PHASE CODE (BLOCK 8)
            3. FAILURE MODES AND CAUSES (BLOCK 6)
            4. FAILURE MODE INDICATOR (BLOCK 3)
            5. FAILURE MODE CODE (BLOCK 7)
            6. MISSION PHASE CODE (BLOCK 5)
SOURCE OF DATA: PROCESS 301.2.4.1.1 (CONDUCT FMEA ANALYSIS)

Name	Label	Description
FMEA/LSAR/CARDB14	FMEA DATA FOR LSAR CARD B14 (2 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                 LCN - LOGISTIC CONTROL NUMBER
                 FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: TRANSFER REQUIRED FMEA DATA TO ITS APPROPRIATE LSAR
BLOCK LOCATION WITHIN CARD B14, AS FOLLOWS:
            1. IDENTIFICATION NUMBER [LCN] (BLOCK 1)
            2. FAILURE EFFECTS (BLOCK 6)
SOURDE OF DATA: PROCESS 301.2.4.1.1 (CONDUCT FMEA ANALYSIS)

Name	Label	Description
FMEA/LSAR/CARDB8	FMEA DATA FOR LSAR CARD B8 (2 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: TRANSFER THE FOLLOWING DATA TO THEIR APPROPRIATE LSAR BLOCK LOCATION WITHIN CARD B8: 1. IDENTIFICATION NUMBER [LCN] (BLOCK 1) 2. ITEM FUNCTION (BLOCK 4) SOURCE OF DATA: PROCESS 301.2.4.1.1 (CONDUCT FMEA ANALYSIS)
FMECA/MNT/LSAR/CARD/	FMECA MAINT DATA - LSAR CARD B15 (3 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: PROVIDE REQUIRED FMECA MAINTENANCE DATA TO THE APPROPRIATE LSAR BLOCK LOCATION WITHIN CARD B15. DATA READS AS FOLLOWS: 1. IDENTIFICATION NUMBER [LCN] (BLOCK 1) 2. FAILURE DETECTION METHOD (BLOCK 6) 3. BASIC MAINTENANCE ACTIONS (BLOCK 7) SOURCE OF DATA: PROCESS 301.2.4.1.4 (CONDUCT FMECA MAINT ANALYSIS)
IND/LVL	INDENTURE LEVEL	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH DETAILED BREAKDOWN OF THE SYSTEM TO BE INVESTIGATED. THE INDENTURE LEVEL APPLIES TO THE SYSTEM HARDWARE OR FUNCTIONAL LEVEL AT WHICH FAILURES ARE POSTULATED. UNLESS OTHERWISE SPECIFIED, THE ANALYST SHALL ESTABLISH THE LOWEST INDENTURE LEVEL OF ANALYSIS. SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)
MIL-STD-1388	MIL-STD-1388	ACRONYMS: LSA - LOGISTIC SUPPORT ANALYSIS PURPOSE OF DATA: SUPPLY THE ANALYST WITH PROCEDURES FOR DEVELOPING ASSOCIATED LSA TASKS AND THE LSA TASKS LISTING. SOURCE OF DATA: POLICY FILES
MIL-STD-1629	MIL-STD-1629 PROCEDURES FOR PERFORMING A FMECA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: AID THE ANALYST IN DETERMINING FORMATS FOR THE FMECA ANALYSIS. THE DATA COMES IN THE FORM OF A MILITARY STANDARD PAMPHLET ENTITLED: "PROCEDURES FOR PERFORMING A FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS". SOURCE OF DATA: POLICY FILES
REC/F/R/D/S	RECOMMENDED FAILURE RATE DATA SOURCES	ACRONYMS: PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE FAILURE RATE DATA SOURCE RECOMMENDED BY THE PROCURING ACTIVITY. DATA MAY BE FOUND IN HANDBOOKS, REPORTS, TEST AND/OR OPERATIONAL DATA, OR OTHER REFERENCE MATERIALS. SOURCE OF DATA: PROCURING ACTIVITY

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Name	Label	Description

REL/DATA   RELIABILITY   ACRONYM:
                    DATA

                                  PURPOSE OF DATA: PROVIDE THE ANALYST WITH APPROPRIATE RELIABILITY DATA.
                                  DETERMINATION OF THE POSSIBLE AND PROBABLE FAILURE MODES REQUIRES AN
                                  ANALYSIS OF RELIABILITY DATA ON THE ITEM SELECTED TO PERFORM EACH
                                  SYSTEM'S INTERNAL FUNCTIONS. IT IS ALWAYS DESIRABLE TO USE DATA
                                  RESULTING FROM RELIABILITY TESTS ON THE SPECIFIC EQUIPMENT TO BE USED,
                                  PERFORMED UNDER REALISTIC CONDITIONS. WHEN SUCH TESTS ARE NOT
                                  AVAILABLE, RELIABILITY DATA FROM MIL-HDBK-217 OR FROM OPERATIONAL
                                  EXPERIENCE AND TESTS PERFORMED UNDER SIMILAR USE CONDITIONS ON ITEMS
                                  SIMILAR TO THOSE IN THE SYSTEM SHOULD BE USED.
                                  SOURCE OF DATA: HISTORICAL FILES OR TEST RESULTS

REP/MOD/DTA   REPLACEABLE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                    MODULE IN   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                    SYSTEM DATA

                                  PURPOSE OF DATA: INFORM THE ANALYST THAT THE IDENTIFIED ITEM/ITEMS ARE
                                  REPLACEABLE AND REQUIRE A SEPARATE FMEA ANALYSIS. DATA IN THIS FLOW
                                  SHALL ACT AS A PROMPT FOR A NEW FMECA PLAN TO BE DEVELOPED, AND THUS A
                                  NEW FMEA ANALYSIS FOR THE MODULE.
                                  SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES
                                                             AND PHASES)

RET/PRG   RETROFIT   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                    PROGRAM

                                  PURPOSE OF DATA: PROVIDE THE ANALYST WITH DEFINITIONS OF OPERATIONAL AND
                                  ENVIRONMENTAL STRESSES THAT THE DEVELOPED SYSTEM IS EXPECTED TO UNDERGO,
                                  INCLUDING FAILURE DEFINITIONS. THE DATA SHALL ALSO CONTAIN TRADE-OFF
                                  STUDY REPORTS WHICH IDENTIFY AREAS OF MARGINAL AND STATE-OF-THE-ART
                                  DESIGN, AND EXPLAIN ANY DESIGN COMPROMISES AND OPERATING RESTRAINTS
                                  AGREED UPON.
                                  SOURCE OF DATA: ENGINEERING CHANGES PROPROSAL

SUG/F/R/D/S   SUGGESTED   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                    FAILURE RATE
                    DATA SOURCES PURPOSE OF DATA: INFORM PROCURING ACTIVITY ABOUT THE FAILURE RATE DATA
                                  SOURCE(S) SUGGESTED BY THE ANALYST FOR COMPLETING THE FMECA. SUGGESTED
                                  SOURCES ARE WRITTEN INTO THE FMECA PLAN. THE PROCURING ACTIVITY MUST
                                  APPROVE THE SOURCE(S) BEFORE THEY CAN BE USED IN THE CRITICALITY
                                  ANALYSIS. SOURCE(S) MAY BE FOUND IN HANDBOOKS, REPORTS, TEST AND/OR
                                  OPERATIONAL DATA, OR OTHER REFERENCE MATERIALS.
                                  SOURCE OF DATA: PROCESS 301.2.4.1.5A3 (IDENTIFY FAILURE RATE DATA
                                                             SOURCES)

Name	Label	Description
SYS/DEF	SYSTEM DEFINITION	ACRONYM: PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM INVESTIGATED. SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS, OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES. ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION. INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED. SOURCE OF DATA: CONTRACT REQUIREMENTS
THR/MECH/DTA	THREAT MECHANISM DATA	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH ADEQUATE DATA PERTAINING TO THE SPECIFIED THREAT MECHANISM, ENABLING HIM TO PERFORM THE DMEA ANALYSIS. DATA SHALL PROVIDE THE CAPABILITIES OF THE THREAT MECHANISM AND POSSIBLE DAMAGE MODES THEY ARE ABLE TO PRODUCE. SOURCE OF DATA: CONTRACT REQUIREMENTS

Name	Label	Description
THR/REASS	THREAT REASSESSMNT	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH ADEQUATE DATA ON THE NEW THREAT(S) THAT AFFECT OPERATIONS OF THE SYSTEM UNDER INVESTIGATION. DATA SHALL PROVIDE THE THREAT MECHANISM'S CAPABILITIES AND POSSIBLE DAMAGE MODES THOSE CAPABILITIES CAN PRODUCE. SOURCE OF DATA: ENGINEERING CHANGES PROPOSAL
TIM/PRMTR	TIME PARAMETERS	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST AS TO THE ACTUAL DATES OF RELATED PROGRAM ELEMENTS. SOURCE OF DATA: INVESTIGATED SYSTEM PROGRAM ELEMENTS
TR/OFF/STDY/RPT	TRADE OFF STUDY REPORTS	ACRONYM: FMEA - FAILURE MODES AND EFFECTS ANALYSIS PURPOSE OF DATA: ASSIST IN THE DERIVATION OF THE SYSTEM DEFINITION. REPORTS SHOULD IDENTIFY AREAS OF MARGINAL AND STATE-OF-THE-ART DESIGN, AND EXPLAIN ANY DESIGN COMPROMISES AND OPERATING RESTRAINTS AGREED UPON. THIS INFORMATION WILL AID IN DETERMINING THE POSSIBLE AND MOST PROBABLE FAILURE MODES AND CAUSES IN THE SYSTEM. SOURCE OF DATA: INPUT FROM TASK 303

Name	Label	Description
HIS/DESG	33ST. DATA ON DESIGN INFL'NCE	AN HISTORICAL FILE OF STUDIES/EVALUATIONS PREVIOUSLY COMPLETED ON SIMILAR TYPES OF ITEMS/EQUIPMENT RELATIVE TO DESIGN INFLUENCE OF MANPOWER, TECHNOLOGY, AND EQUIPMENT. THE HISTORICAL FILES SHOULD INCLUDE BASIS OF THE EVALUATIONS, DATA BASE USED, AND RATIONALE OF THE NEW ITEM/EQUIPMENT EVALUATIONS.
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY):

1. RELIABILITY DATA
2. FAILURE RATE DATA
3. SPARES AND SPARE FUNDING DATA

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM. THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
             AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
             SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
             REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
             SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
B/8	RECORD B CARD B8	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY REFERS TO THE LSAR LOCATION RECORD B, CARD B8. IT CONTAINS ALL THE COLUMNS ASSOCIATED WITH THE CARD.
B1/13	REC B1 CARD B13	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY REFERS TO LSAR RECORD B1 CARD B13. IT CONTAINS ALL THE COLUMNS WITHIN THAT CARD.
B1/14	REC B1 CARD B14	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY CONTAINS ALL THE COLUMN ENTRIES ASSOCIATED WITH LSAR RECORD B1, CARD B14.
B1/15	RECORD B1 CARD B15	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY PROVIDES THE LOCATION FOR ALL COLUMNS WITHIN LSAR RECORD B1, CARD B15.
B1/17	REC B1 CARD B17	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD CONTAINS ALL DATA FOR LSAR CARD B17 FOR RECORD 1.
B2/16	REC B2 CARD B16	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALISYS RECORD THIS ENTITY CONTAINS ALL THE COLUMNS REFERRED TO WITHIN LSAR RECORD B2, CARD B16.
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
DES/MOD	DESIGN MODIFCTN	THIS ENTITY REFERS TO ACTIVITIES THAT DEVELOP AND/OR ADDRESS THOSE DESIGN MODIFICATIONS INITIATED BY THE FMECA ANALYSIS RECOMMENDATIONS. EACH OF THESE ACTIVITIES/AGENCIES SHALL RECEIVE A REPORT OF THE INDIVIDUAL FMECA ANALYSIS.
ECP	ENGINRNG CHANGE PROPOSAL	ENGINEERING CHANGE PROPOSALS (ECPs) WHICH CORRESPOND TO THOSE FUNCTIONAL AND/OR PHYSICAL CHANGES WHICH HAVE BEEN SUGGESTED TO MEET A NEW THREAT OR TO MAINTAIN AN ESTABLISHED LEVEL OF CAPABILITY NEEDED TO NEUTALIZE SOME OPPOSING MECHANISM. THEY WILL INCLUDE AT LEAST THE FOLLOWING INFORMATION FOR FMECA USE: 1. ECP ENGINEERING DATA 2. THREAT REASSESSMENT DATA 3. RETROFIT PROGRAM

Name	Label	Description
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.
PROG/ELE	INVSTGTD SYSTEM DIAGRAM ELEMENTS	THIS ENTITY BRANCHES TO OTHER ELEMENTS (BESIDES FMECA) WHOSE DATA IS USED BY THE FMECA AND/OR WHO NEED DATA FROM THE FMECA ANALYSIS.
PUB/FIN/REP	PUBLISH FINAL REPORT	ONCE COMPLETE, THE FMECA REPORT SHALL BE PUBLISHED AND DISTRIBUTED THROUGH THIS ENTITY.
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

APPENDIX B
SUBTASK 301.2.4.1.1A

Name	Label	Description

301.2.4.1.1A1   CREATE   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                 SYSTEM   FMECA - FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS
                 DEFINTION

                             PURPOSE OF PROCESS: PRODUCE A SYSTEM DEFINITION REQUIRED FOR THE FMEA
                             AND FMECA ANALYSIS. IT IS ALSO NEEDED IN THE CRITICALITY ANALYSIS, AND
                             THE DMEA. THE EXPLOSION OF THIS PROCESS REVEALS GREATER DETAILED
                             ACCOUNTING FOR THE SYSTEM DEFINITION.
                                   ONCE COMPLETE, THE SYSTEM DEFINITION SHALL BE USED IN PROCESSES
                             301.2.4.1.2A4B4, 301.2.4.1.4A2, 301.2.4.1.6, 301.2.4.1.1A3 AND
                             301.2.4.1.1A4. ALSO, THIS PROCESS SHALL TRANSFER THE GENERIC PARTS LIST
                             WHOSE DESTINATION IS PROCESS 301.2.4.1.1A2.
                             SOURCE OF PROCESS: MIL-HDBK-1629A, MIL-STD-881, MIL-STD-756,
                                                 LSA TASK 301.2.1

301.2.4.1.1A2   INITIATE   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                 FMEA   LCN - LOGISTIC CONTROL NUMBER
                 WORKSHEET   ALC - ALTERNATE LOGISTIC CODE
                             PURPOSE OF PROCESS: INITIATE PREPARATION OF THE FMEA WORKSHEET. BY
                             TAKING THE GENERIC PARTS LIST DEVELOPED IN THE SYSTEM DEFINITION, THE
                             IDENTIFICATION NUMBER (LCN) AND GENERAL ITEM/FUNCTION IDENTIFICATION
                             (NOMENCLATURE) STATEMENT ARE ENTERED ON THE FMEA WORKSHEET. A LARGER
                             FUNCTION STATEMENT, WITH APPROPRIATE DETAIL, SHALL BE DEVELOPED BY THE
                             ANALYST AND INSERTED INTO THE FMEA WORKSHEET. AN ALTERNATE LOGISTIC
                             CODE (ALC) AS SPECIFIED IN MIL-STD-1388-2 SHALL BE UTILIZED FOR
                             ALTERNATE DESIGN CONSIDERATIONS.
                                   ONCE ACCOMPLISHED, THE ITEM FUNCTION WITH IT'S RESPECTIVE
                             IDENTIFICATION NUMBER SHALL BE WRITTEN TO THE APPROPRIATE LSAR RECORDS.
                             THE ITEM'S IDENTIFICATION WILL BE WRITTEN TO RECORD B1, CARD 8, BLOCK 1
                             AND THE ITEM FUNCTION SHALL BE WRITTEN TO RECORD B1, CARD 8, BLOCK 4.
                             THE INITIATED FMEA WORKSHEET IS THEN SENT TO THE NEXT PROCESS
                             (301.2.4.1.1A3) FOR FURTHER DATA ENTRY.
                             SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description
301.2.4.1.1A3	DETERMINE FAILURE MDS CAUSE & PHASES	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF PROCESS: IDENTIFY AND DESCRIBE ALL PREDICTABLE FAILURE MODES FOR EACH INDENTURE LEVEL. POTENTIAL FAILURE MODES SHALL BE DETERMINED BY EXAMINING ITEM OUTPUTS AND FUNCTIONAL OUTPUTS IDENTIFIED IN APPLICABLE BLOCK DIAGRAMS AND SCHEMATICS.

FAILURE MODES OF THE INDIVIDUAL ITEM FUNCTION SHALL BE POSTULATED ON THE BASIS OF STATED REQUIREMENTS IN THE SYSTEM DEFINITION NARRATIVE AND THE FAILURE DEFINITIONS INCLUDED IN THE GROUND RULES. THE MOST PROBABLE CAUSES ASSOCIATED WITH THE POSTULATED FAILURE MODE SHALL BE IDENTIFIED AND DESCRIBED. FAILURE CAUSES WITHIN THE ADJACENT INDENTURE LEVELS SHALL BE CONSIDERED,E.G., FAILURE CAUSES AT THE THIRD INDENTURE LEVEL SHALL BE CONSIDERED WHEN CONDUCTING A SECOND INDENTURE LEVEL ANALYSIS.

WHERE FUNCTIONS SHOWN ON A BLOCK DIAGRAM ARE PERFORMED BY A REPLACEABLE MODULE IN THE SYSTEM, A SEPARATE FMEA SHALL BE PERFORMED ON THE INTERNAL FUNCTIONS OF THE MODULE, VIEWING THE MODULE AS A SYSTEM. THE DATA FOR THE SEPARATE MODULE SHALL BE SENT TO THE FMECA PLAN TO CREATE A SCHEME FOR THE MODULE.

THE EFFECTS OF POSSIBLE FAILURE MODES IN THE MODULE INPUTS/OUTPUTS DESCRIBE THE FAILURE MODES OF THE MODULE WHEN IT IS VIEWED AS AN ITEM WITHIN THE SYSTEM. TO ASSURE THAT A COMPLETE ANALYSIS IS PERFORMED, EACH FAILURE MODE OUTPUT FUNCTION SHALL, AS A MINIMUM, BE EXAMINED IN RELATION TO THE FOLLOWING TYPICAL FAILURE CONDITIONS:

    A. PREMATURE OPERATION.
    B. FAILURE TO OPERATE AT A PRESCRIBED TIME.
    C. INTERMITTENT OPERATION.
    D. FAILURE TO CEASE OPERATION AT A PRESCRIBED TIME.
    E. LOSS OF OUTPUT OR FAILURE DURING OPERATION.
    F. DEGRADED OUTPUT OR OPERATIONAL CAPABILITY
    G. OTHER UNIQUE FAILURE CONDITIONS, AS APPLICABLE, BASED UPON
       SYSTEM CHARACTERISTICS AND OPERATIONAL REQUIREMENTS OR
       CONSTRAINTS

A TWO POSITION CODE SHALL BE USED TO IDENTIFY EACH FAILURE MODE. THIS FAILURE MODE INDICATOR SHALL BE A 2-DIGIT, ALPHABETIC CODE FOR EACH INDIVIDUAL FAILURE MODE, AND SHALL BE ENTERED INTO LSAR RECORD B1, CARD B13, BLOCK 2 (FAILURE MODES ARE IDENTIFIED WITH CODES AA-ZZ). THE FAILURE MODE CODE, (ONLY WHEN SPECIFIED BY THE REQUIRING AUTHORITY), IS ENTERED ON LSAR RECORD B1, CARD B13, BLOCK 5.

THE PROCESS SHALL ALSO INCLUDE A CONCISE STATEMENT OF THE MISSION PHASE AND OPERATIONAL MODE IN WHICH THE FAILURE OCCURS. WHERE SUBPHASE, EVENT, OR TIME CAN BE DEFINED FROM THE SYSTEM DEFINITION AND MISSION PROFILES, THE MOST DEFINITIVE TIMING INFORMATION SHOULD ALSO BE ENTERED FOR THE ASSUMED TIME OF FAILURE OCCURRENCE.

A TWO-POSITION CODE SHALL BE UTILIZED TO IDENTIFY EACH MISSION PHASE. THIS MISSION PHASE CODE SHALL BE AS SPECIFIED BY THE REQUIRING AUTHORITY AND ENTERED INTO LSAR RECORD B1, CARD B13, BLOCK 7.

ONCE DETERMINED, THE DATA SHALL BE ENTERED DIRECTLY ONTO THE APPROPRIATE FMEA WORKSHEET COLUMN. FAILURE MODES AND CAUSES DATA SHALL BE WRITTEN TO THE APPROPRIATE LSAR (RECORD B1 CARD 13 BLOCK 8 AND RECORD B1, CARD B13, BLOCK 6, RESPECTIVELY). THE CORRESPONDING IDENTIFICATION NUMBER SHALL ACCOMPANY THIS INTO RECORD B1, CARD B13, BLOCK 1).

THE FMEA WORKSHEET IS THEN SENT ALONG TO THE NEXT PROCESS

Name	Label	Description

(301.2.4.1.1A4) FOR FURTHER DATA ENTRY.

IF CONSIDERED REPLACEABLE, A DATA MODULE SHALL BE SENT BACK TO TASK 105 (FMECA PLAN) IN ORDER TO HAVE A SEPARATE ANALYSIS PERFORMED.
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

301.2.4.1.1A4 DETERMINE FAILURE EFFECTS

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
           LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: IDENTIFY, EVALUATE AND RECORD THE EFFECTS OF EACH ASSUMED FAILURE MODE ON ITEM OPERATION, FUNCTION, OR STATUS. FAILURE EFFECTS SHALL FOCUS ON THE SPECIFIC BLOCK DIAGRAM ELEMENT WHICH IS AFFECTED BY THE FAILURE UNDER CONSIDERATION. THE FAILURE UNDER CONSIDERATION MAY IMPACT SEVERAL INDENTURE LEVELS, IN ADDITION TO THE INDENTURE LEVEL UNDER ANALYSIS; THEREFORE, "LOCAL," "NEXT HIGHER LEVEL," AND "END" EFFECTS SHALL BE EVALUATED. FAILURE EFFECTS SHALL ALSO CONSIDER THE MISSION OBJECTIVES, MAINTENANCE REQUIREMENTS AND PERSONNEL AND SYSTEM SAFETY.

ONCE DETERMINED THE DATA SHALL BE WRITTEN TO THE APPROPRIATE FMEA WORKSHEET COLUMN. AFTER COMPLETION, THE FAILURE EFFECTS SHALL BE WRITTEN TO THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B14, BLOCK 6. ALSO WRITTEN IS THE CORRESPONDING IDENTIFICATION NUMBER (LCN) TO RECORD B1, CARD B14, BLOCK 1). THE FMEA WORKSHEET IS THEN SENT ALONG TO THE NEXT PROCESS (301.2.4.1.1A5) FOR FURTHER DATA ENTRY.

A TWO POSITION CODE SHALL BE UTILIZED TO IDENTIFY EACH FAILURE EFFECT. THIS FAILURE EFFECT CODE SHALL BE AS SPECIFIED BY THE REQUIRING ACTIVITY AND SHALL BE WRITTEN TO LSAR RECORD B1, CARD B14, BLOCK 5.
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

301.2.4.1.1A5 DETERMINE FAILURE DETECTION METHODS

ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS
           LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DEVELOP METHODS BY WHICH OCCURRENCE OF THE FAILURE MODE MAY BE DETECTED BY THE OPERATOR. THE FAILURE DETECTION MEANS SHALL BE IDENTIFIED AND MAY INCLUDE VISUAL OR AUDIBLE WARNING DEVICES, AUTOMATIC SENSING DEVICES, SENSING INSTRUMENTATION, OR ANY UNIQUE INDICATORS.

UPON COMPLETION, THE FAILURE DETECTION METHOD SHALL BE WRITTEN TO THE FMEA WORKSHEET AND SENT TO PROCESS 301.2.4.1.3A3 (FAILURE DETECTION MEANS) TO AID IN THE FMECA MAINTAINABILITY DEVELOPMENT OF FAILURE DETECTION METHODS.

THE FMEA WORKSHEET IS THEN SENT ALONG TO THE NEXT PROCESS (301.2.4.1.1A6) FOR FURTHER DATA ENTRY.

A TWO POSITION CODE SHALL BE UTILIZED TO IDENTIFY EACH FAILURE DETECTION METHOD. THIS FAILURE DETECTION CODE SHALL BE AS SPECIFIED BY THE REQUIRING ACTIVITY AND SHALL BE WRITTEN TO LSAR RECORD B1 CARD B15 BLOCK 5.
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388

B-24

Name	Label	Description

301.2.4.1.1A6 — DETERMINE COMPNSTNG PROVISION

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           FMECA - FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF PROCESS: IDENTIFY AND EVALUATE COMPENSATING PROVISIONS,
EITHER DESIGN PROVISIONS OR OPERATOR ACTIONS, WHICH CIRCUMVENT OR
MITIGATE THE EFFECT OF THE FAILURE. THIS STEP IS REQUIRED TO RECORD THE
TRUE BEHAVIOR OF THE ITEM IN THE PRESENCE OF AN INTERNAL MALFUNCTION OR
FAILURE.

     ONCE COMPLETE, THE COMPENSATING PROVISION SHALL BE WRITTEN TO THE
FMEA WORKSHEET. THE WORKSHEET IS THEN SENT TO THE NEXT PROCESS
(301.2.4.1.1A7) FOR FURTHER DATA ENTRY.
SOURCE OF DATA: MIL-STD-1629A

301.2.4.1.1A7 — DETERMINE SEVERITY CLASSFCTN

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           FMECA - FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF PROCESS: DETERMINE THE SEVERITY CLASSIFICATION CATEGORY FOR
EACH FAILURE MODE AND ITEM ACCORDING TO THE FAILURE EFFECT. EFFECT ON
THE FUNCTIONAL CONDITION OF THE ITEM UNDER ANALYSIS CAUSED BY LOSS OR
DEGRADATION OF OUTPUT SHALL BE IDENTIFIED SO THE FAILURE MODE EFFECT
WILL BE PROPERLY CATEGORIZED. FOR LOWER LEVELS OF INDENTURE WHERE
EFFECTS ON HIGHER INDENTURE LEVELS ARE UNKNOWN, A FAILURE'S EFFECT ON
THE INDENTURE LEVEL UNDER ANALYSIS SHALL BE DESCRIBED BY THE SEVERITY
CLASSIFICATION CATEGORIES. SEVERITY CLASSIFICATION CATEGORIES
CONSISTENT WITH MIL-STD-882 ARE DEFINED AS FOLLOWS:
     a. CATEGORY I - CATASTROPHIC - A FAILURE WHICH MAY CAUSE DEATH OR
        WEAPON SYSTEM LOSS (i.e. AIRCRAFT, TANK, MISSILE, SHIP, etc.)
     b. CATEGORY II - CRITICAL - A FAILURE WHICH MAY CAUSE SEVERE
        INJURY MAJOR PROPERTY DAMAGE, OR MAJOR SYSTEM DAMAGE WHICH WILL
        RESULT IN MISSION LOSS.
     c. CATEGORY III - MARGINAL - A FAILURE WHICH MAY CAUSE MINOR
        INJURY MINOR PROPERTY DAMAGE, OR MINOR SYSTEM DAMAGE WHICH WILL
        RESULT IN DELAY, LOSS OF AVAILABILITY OR MISSION DEGRADATION.
     d. CATEGORY IV - MINOR - A FAILURE NOT SERIOUS ENOUGH TO CAUSE
        INJURY, PROPERTY DAMAGE, OR SYSTEM DAMAGE, BUT WHICH WILL RESULT
        IN UNSCHEDULED MAINTENANCE OR REPAIR.
FOR FURTHER INSTRUCTIONS CONSULT MIL-STD-882.
     ONCE DETERMINED, THE SEVERITY CLASSIFICATION SHALL BE WRITTEN TO
THE FMEA WORKSHEET. THE WORKSHEET IS THEN SENT TO THE NEXT PROCESS
(301.2.4.1.1A8) FOR FURTHER DATA ENTRY.
SOURCE OF DATA: MIL-STD-1629A, MIL-STD-882

Name	Label	Description
301.2.4.1.1A8	FINALIZE FMEA WKST W/ APPROP REMARKS	ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS FMECA - FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF PROCESS: FURNISH REMARKS PERTAINING TO AND CLARIFYING ANY OTHER COLUMN IN THE WORKSHEET. RECOMMENDATIONS FOR DESIGN IMPROVEMENTS SHALL BE RECORDED AND FURTHER AMPLIFIED IN THE FMECA REPORT. THIS ENTRY MAY ALSO INCLUDE UNUSUAL CONDITIONS, FAILURE EFFECTS OF REDUNDANT ITEMS, RECOGNITION OF PARTICULARLY CRITICAL DESIGN FEATURES OR ANY OTHER REMARKS THAT AMPLIFY THE LINE ENTRY. SINCE IT IS IMPROBABLE THAT ALL FAILURE MODES IN CATEGORY I AND CATEGORY II CAN BE DESIGNED OUT, INFORMATION SHALL BE PROVIDED THAT OTHER REASONABLE ACTIONS AND CONSIDERATIONS ARE OR HAVE BEEN ACCOMPLISHED TO REDUCE OCCURRENCE OF A GIVEN FAILURE MODE AND PROVIDE A QUALITATIVE BASIS OR RATIONALE FOR ACCEPTANCE OF THE DESIGN. THE RATIONALE FOR ACCEPTANCE OF CATEGORY I AND CATEGORY II FAILURE MODES SHALL ADDRESS THE FOLLOWING:

    a. DESIGN. FEATURES OF THE DESIGN THAT RELATE TO THE IDENTIFIED FAILURE MODE THAT MINIMIZE OCCURRENCE OF THE FAILURE MODE; i.e., SAFETY FACTORS, PARTS DERATING CRITERIA, ETC.

    b. TEST. TESTS ACCOMPLISHED THAT VERIFY THE DESIGN FEATURES AND TESTS AT HARDWARE ACCEPTANCE OR DURING GROUND TURNAROUND OR MAINTENANCE THAT WOULD DETECT THE FAILURE MODE OCCURRENCE.

    c. INSPECTION. INSPECTION ACCOMPLISHED TO ENSURE THAT HARDWARE IS BEING BUILT TO DESIGN REQUIREMENTS; ALSO THE INSPECTION ACCOMPLISHED DURING TURNAROUND OPERATIONS OR MAINTENANCE THAT WOULD DETECT THE FAILURE MODE OR EVIDENCE OF CONDITIONS THAT COULD CAUSE THE FAILURE MODE.

ONCE COMPLETED, WORKSHEET DATA UNDER THE NEW DATA HEADING OF FMEA DATA SHALL BE SENT TO TASK 102 (CA ANALYSIS/PROCESS 301.2.4.1.2) TASK 103 (FMECA-MAINTAINABILITY INFORMATION/PROCESS 301.2.4.1.3) AND TASK 104 (DMEA/PROCESS 301.2.4.1.4) FOR FURTHER ANALYSIS IN THOSE TASKS. IT SHALL ALSO BE SENT TO PROCESS 301.2.4.1.6, THE CONSOLIDATION OF THE FMECA ANALYSIS, WHERE IT WILL BE ASSEMBLED ALONG WITH OTHER TASKS OF THE ANALYSIS INTO A FINAL AND PRESENTABLE REPORT.
SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

COD/SYS — CODING SYSTEM

ACRONYMS LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: PROVIDE A SYSTEM THAT HAS CONSISTENT IDENTIFICATION OF INVESTIGATED SYSTEM FUNCTIONS AND EQUIPMENT FOR TRACKING FAILURE MODES. ANALYST SHALL ADHERE TO THE CODING SYSTEM OF MIL-STD-1388-2 (LCN), BASED ON THE HARDWARE BREAKDOWN STRUCTURE OF MIL-STD-881, WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR OTHER SIMILAR UNIFORM SYSTEMS. THE CODING SYSTEM SHALL BE CONSISTENT WITH THE RELIABILITY AND FUNCTIONAL BLOCK DIAGRAM NUMBERING SYSTEM TO PROVIDE COMPLETE VISIBILITY OF EACH FAILURE MODE AND ITS RELATIONSHIP TO THE SYSTEM.
SOURCE OF DATA: PROCESS 301.2.4.1.5A4 (IDENTIFY CODING SYSTEM)

DES/DAT/DRWGS — DESIGN DATA & DRAWINGS

ACRONYMS:

PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS.
SOURCE OF DATA: SYSTEM DETAIL DESIGNER

DI-S-3604/S-126-1 — DATA ITEM DESCRIPTION DI-S-3604/S-126-1

ACRONYMS:

PURPOSE OF DATA: AID THE ANALYST IN DETERMINING FORMATS FOR FUNCTIONAL FLOW DIAGRAMS. THE DATA COMES IN THE FORM OF A DID UNDER THE TITLE: "FUNCTIONAL FLOW DIAGRAMS."
SOURCE OF DATA: POLICY FILES

FAIL/CRIT — FAILURE CRITERIA

ACRONYMS:

PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY.
SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)

FAIL/DET/METH — FAILURE DETECTION METHOD

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
          FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF DATA: PROVIDE THE ANALYST WITH INFORMATION PERTAINING TO THE FAILURE DETECTION MEANS NECESSARY TO COMPLETE THE FMECA MAINTAINABILITY WORKSHEET. THE FAILURE DETECTION MEANS SHALL CONTAIN DESCRIPTIONS OF METHODS BY WHICH OCCURRENCE OF THE FAILURE MODE MAY BE DETECTED BY THE OPERATOR.
SOURCE OF DATA: PROCESS 301.2.4.1.1A5 (DETERMINE FAILURE DETECTION METHODS)

Name	Label	Description
FAIL/EFF	FAILURE EFFECTS	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE TO THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B14, BLOCK 6), THE FAILURE EFFECTS DATA DETERMINED IN THE FMEA ANALYSIS. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME CARD. SOURCE OF DATA: PROCESS 301.2.4.1.1A4 (DETERMINE FAILURE EFFECTS)
FAIL/MOD/C	FAILURE MODE AND CAUSES	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE FAILURE MODE AND CAUSE DATA TO THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B13, BLOCK 6). DATA SHALL BE WRITTEN ALONGSIDE ITS APPROPRIATE IDENTIFICATION NUMBER [LCN] (LOCATED IN BLOCK 1 OF THE SAME LSAR CARD). SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES, CAUSES AND PHASES)
FMC	FAILURE MODE CODE VALUE	ACRONUMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: PROVIDE THE LSAR WITH EACH IDENTIFIED ITEM'S FAILURE MODE CODE. SOURCE OF DATA: PROCESS 301.2.4.1.1A9B2 (DETERMINE FAILURE MODE CODE VALUE)
FME/DTA	FMEA DATA	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN THE DATA BANK: A. IDENTIFICATION NUMBER (LCN) B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE) C. FUNCTION D. FAILURE MODES AND CAUSES E. MISSION PHASE/OPERATIONAL MODE F. FAILURE EFFECTS a. LOCAL EFFECTS b. NEXT HIGHER LEVEL c. END EFFECTS G. FAILURE DETECTION MEANS H. COMPENSATING PROVISIONS I. SEVERITY CLASS J. REMARKS SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)

Name	Label	Description
FMEA/WKST	FMEA WORKSHEET DATA	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE THE ANALYST WITH AN UP-TO-DATE LISTING OF THE FMEA DATA ENTERED ONTO THE FMEA WORKSHEET. ONCE ENTERED, DATA MAY BE UPDATED OR USED FOR FURTHER ANALYSIS WITHIN THE FMEA TASK. DATA WILL CONTINUE TO BE ENTERED UNTIL EACH TASK IS COMPLETE, AND MAY CONTAIN ANY OR ALL OF THE FOLLOWING: A. IDENTIFICATION NUMBER (LCN) B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE) C. FUNCTION D. FAILURE MODES AND CAUSES E. MISSION PHASE/OPERATIONAL MODE F. FAILURE EFFECTS a. LOCAL EFFECTS b. NEXT HIGHER LEVEL c. END EFFECTS G. FAILURE DETECTION METHOD H. COMPENSATING PROVISIONS I. SEVERITY CLASS J. REMARKS THE DATA FLOWS THROUGHOUT THE PROCESSES WITHIN THE FMEA TASK. SOURCE OF DATA: PROCESSES WITHIN THE FMEA ANALYSIS
FMI	FAILURE MODE INDICATOR VALUE	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD ADP - AUTOMATED DATA PROCESSING PURPOSE OF DATA: IDENTIFY THE FAILURE MODE INDICATOR VALUE MANDATORY FOR LSAR ADP PROCESSING TO ITS PARTICULAR LSAR LOCATION. SOURCE OF DATA: PROCESS 301.2.4.1.1A9B1 (DETERMINE FAILURE MODE INDICATOR VALUE)
GEN/PRT/LST	GENERIC PARTS LIST	ACRONYM: FMECA - FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH A LIST OF THE DIFFERENT PARTS COMPRISING THE WORK BREAKDOWN STRUCTURE FOR THE DEVELOPMENTAL ITEM/SYSTEM, RELATING THE PARTS TO THE VARIOUS INDENTURE LEVELS UNDER INVESTIGATION. DATA SHALL BE IN THE FORM OF A LIST, WITH EACH PART RELATED TO AND COINCIDING WITH THE IDENTIFICATION NUMBER ASSIGNED TO THE PART THROUGH THE CODING SYSTEM CHOSEN IN THE FMECA PLAN. PARTS SHALL BE LISTED BY PHYSICAL ATTRIBUTES AND CONTAIN A DESCRIPTION OF THE FUNCTION OF THE ITEM. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL ATTRIBUTES)

Name	Label	Description
ID#	IDENTIFICTN NUMBER	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER ALC - ALTERNATE LOGISTIC CONTROL NUMBER PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/ FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSFER THE IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA, TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN (MIL-STD-1388-2). SOURCE OF DATA: CODING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL ATTRIBUTES) IN THE FMEA
IND/LVL	INDENTURE LEVEL	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH DETAILED BREAKDOWN OF THE SYSTEM TO BE INVESTIGATED. THE INDENTURE LEVEL APPLIES TO THE SYSTEM HARDWARE OR FUNCTIONAL LEVEL AT WHICH FAILURES ARE POSTULATED. UNLESS OTHERWISE SPECIFIED, THE ANALYST SHALL ESTABLISH THE LOWEST INDENTURE LEVEL OF ANALYSIS. SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)
ITM/FUN	ITEM FUNCTION	ACRONYMS: FMEA - FAILURE MODE AND EFFECT ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: WRITE TO THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B6, BLOCK 4) THE ITEM FUNCTION DATA DETERMINED IN THE FMEA ANALYSIS. THE DATA SHALL BE WRITTEN ALONGSIDE AN APPROPRIATE IDENTIFICATION NUMBER LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. SOURCE OF DATA: PROCESS 301.2.4.1.1A2 (INITIATE FMEA WORKSHEET)
MIL-M-24100	MIL-M-24100	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH ILLUSTRATIONS AND GUIDANCE FOR DEVELOPING FUNCTIONAL BLOCK DIAGRAMS. THESE ILLUSTRATIONS MAY ASSIST THE ANALYST IN DEVELOPING THE FUNCTIONAL BLOCK DIAGRAMS. THE MANUAL IS ENTITLED: "MILITARY SPECIFICATION MANUALS, TECHNICAL: FUNCTIONALLY ORIENTED MAINTENANCE MANUALS (FOMM) FOR EQUIPMENT AND SYSTEMS." SOURE OF DATA: POLICY FILES
MIL-STD-756	MIL-STD-756	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH COMMON GROUND RULES FOR TECHNIQUES AND DATA SOURCES USED TO FORMULATE RELIABILITY MODELS AND PREDICTIONS SO THEY MAY BE UNIFORMLY APPLIED AND INTERPRETED. THIS STANDARD ("RELIABILITY MODELING AND PREDICTION") ESTABLISHES PROCEDURES AND GROUND RULES INTENDED TO ACHIEVE THIS PURPOSE. SOURCE OF DATA: POLICY FILES

Name	Label	Description

MIL-STD-881   MIL-STD-881 ACRONYMS:
                WORK BREAKDN
                STRUCTURES   PURPOSE OF DATA: AID THE ANALYST BY PROVIDING GUIDANCE IN PREPARING
                FOR DEFENSE A STANDARD WORK BREAKDOWN STRUCTURE. DATA IS IN THE FORM OF A MILITARY
                MATER'L ITEM STANDARD PAMPHLET, "WORK BREAKDOWN STRUCTURES FOR DEFENSE MATERIEL
                             ITEMS."
                             THE MIL-STD IDENTIFIES ARMY MATERIEL BY GENERAL CLASSIFICATIONS:
                                  1. AIRCRAFT SYSTEM
                                  2. ELECTRONICS SYSTEM
                                  3. MISSILE SYSTEM
                                  4. ORDNANCE SYSTEM
                                  5. SHIP SYSTEM
                                  6. SPACE SYSTEM
                                  7. SURFACE VEHICLE SYSTEM
                                EACH OF THE MAJOR CATEGORIES (LEVEL 1 ITEMS) IS FURTHER STRATIFIED
                             INTO MAJOR SYSTEMS (LEVEL 2 ITEMS). AS AN EXAMPLE, AIRCRAFT SYSTEMS ARE
                             BROKEN DOWN INTO THE FOLLOWING MAJOR SYSTEMS:
                                  1. AIR VEHICLE
                                  2. TRAINING
                                  3. PECULIAR SUPPORT EQUIPMENT
                                  4. SYSTEM TEST AND EVALUATION
                                  5. SYSTEM/PROJECT MANAGEMENT
                                  6. DATA
                                  7. OPERATIONAL/SITE ACTIVATION
                                  8. COMMON SUPPORT EQUIPMENT
                                  9. INDUSTRIAL FACILITIES
                                 10. INITIAL SPARES AND INITIAL REPAIR PARTS
                                LEVEL 3 ITEMS CONTAIN THE LAST INDENTURE FOR WHICH GUIDANCE IS
                             PROVIDED. THIS LEVEL ADDRESSES SUCH ITEMS AS AIRFRAME, PROPULSION
                             UNITS, COMMUNICATIONS, ETC. HOWEVER, GUIDANCE IN THE MIL-STD STATES
                             THAT ..."THE PROJECT SUMMARY WBS WILL BE TAILORED TO THE PROJECT
                             OBJECTIVES.."
                              SOURCE OF DATA: POLICY FILES

MIL-STD-882   MIL-STD-882 ACRONYMS:
                             PURPOSE OF DATA: AID THE ANALYST IN DETERMINING SEVERITY
                             CLASSIFICATIONS. DATA COMES IN THE FORM OF A MILITARY STANDARD
                             PAMPHLET.
                             SOURCE OF DATA: POLICY FILES

MIS/PH/OP/MOD   MISSION   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                PHASE AND   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                OPERATIONAL   LCN - LOGISTIC CONTROL NUMBER
                MODES
                             PURPOSE OF DATA: WRITE THE MISSION PHASE AND OPERATIONAL MODE DATA TO
                             THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B13, BLOCK 8) ALONGSIDE
                             ITS RESPECTIVE IDENTIFICATION NUMBER (LCN) LOCATED AT BLOCK 1 OF THE
                             SAME LSAR CARD.
                             SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES
                                              AND PHASES)

Name	Label	Description
MPC	MISSION PHASE CODE VALUE	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: PROVIDE THE LSAR WITH IMPORTANT MISSION PHASE CODE DATA NECESSARY FOR THE AUTOMATED LSAR. SOURCE OF DATA: PROCESS 301.2.4.1.1A9B3
REL/DATA	RELIABILITY DATA	ACRONYM: PURPOSE OF DATA: PROVIDE THE ANALYST WITH APPROPRIATE RELIABILITY DATA. DETERMINATION OF THE POSSIBLE AND PROBABLE FAILURE MODES REQUIRES AN ANALYSIS OF RELIABILITY DATA ON THE ITEM SELECTED TO PERFORM EACH SYSTEM'S INTERNAL FUNCTIONS. IT IS ALWAYS DESIRABLE TO USE DATA RESULTING FROM RELIABILITY TESTS ON THE SPECIFIC EQUIPMENT TO BE USED, PERFORMED UNDER REALISTIC CONDITIONS. WHEN SUCH TESTS ARE NOT AVAILABLE, RELIABILITY DATA FROM MIL-HDBK-217 OR FROM OPERATIONAL EXPERIENCE AND TESTS PERFORMED UNDER SIMILAR USE CONDITIONS ON ITEMS SIMILAR TO THOSE IN THE SYSTEM SHOULD BE USED. SOURCE OF DATA: HISTORICAL FILES OR TEST RESULTS
REP/MOD/DTA	REPLACEABLE MODULE IN SYSTEM DATA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST THAT THE IDENTIFIED ITEM/ITEMS ARE REPLACEABLE AND REQUIRE A SEPARATE FMEA ANALYSIS. DATA IN THIS FLOW SHALL ACT AS A PROMPT FOR A NEW FMECA PLAN TO BE DEVELOPED, AND THUS A NEW FMEA ANALYSIS FOR THE MODULE. SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES AND PHASES)
SYS/DEF	SYSTEM DEFINITION	ACRONYM: PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM INVESTIGATED. SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS, OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES. ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION. INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED. SOURCE OF DATA: CONTRACT REQUIREMENTS
TR/OFF/STDY/RPT	TRADE OFF STUDY REPORTS	ACRONYM: FMEA - FAILURE MODES AND EFFECTS ANALYSIS PURPOSE OF DATA: ASSIST IN THE DERIVATION OF THE SYSTEM DEFINITION. REPORTS SHOULD IDENTIFY AREAS OF MARGINAL AND STATE-OF-THE-ART DESIGN, AND EXPLAIN ANY DESIGN COMPROMISES AND OPERATING RESTRAINTS AGREED UPON. THIS INFORMATION WILL AID IN DETERMINING THE POSSIBLE AND MOST PROBABLE FAILURE MODES AND CAUSES IN THE SYSTEM. SOURCE OF DATA: INPUT FROM TASK 303

Name	Label	Description
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY):

    1. RELIABILITY DATA

    2. FAILURE RATE DATA

    3. SPARES AND SPARE FUNDING DATA

Name	Label	Description

P/F   POLICY FILES   CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS &
                              FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW
                              REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM.
                              THIS DATA STORE INCLUDES:
                                  1. AR 700-127 ILS
                                  2. MIL-STD 881A (FB)
                                  3. MIL-STD 1388-1 LSA
                                  4. MIL-STD 1388-2 LSAR
                                  5. MIL-STD 152, TECH REVIEW GUIDELINES
                                  6. DA PAM 700-28, ILS REVIEW GUIDELINES
                                  7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
                                  8. MIL-STD 781, RELIABILITY DESIGN GUIDE
                                  9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
                                 10. AR 70-38, ILS PREPARATION
                                 11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
                                 12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
                                 13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
                                                    AND CRITERIA
                                 14. MIL-STD-780, CODING SYSTEM
                                 15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
                                 16. MIL-STD-1629, PROCEDURES FOR FMECA
                                 17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
                                 18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
                                 19. MIL-M-24100B, FOMM
                                 20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
                                 21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
                                 22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
                                 23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
                                 24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
                                 25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
                                                    SYSTEM REPORTS
                                 26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
                                                    REPORT
                                 27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
                                 28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
                                 29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
                                 30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
                                 31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
                                 32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
                                                    SUPPORT ANALYSIS
                                 33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
                                 34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
                                 35. DI-R-7079, RELIABILITY PROGRAM PLAN
                                 36. DI-R-7080, RELIABILITY STATUS REPORT
                                 37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
                                 38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
                                 39. DI-R-2114, RELIABILITY ALLOCATION REPORT
                                 40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
                                 41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
                                 42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
                                 43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
                                 44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
                                 45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

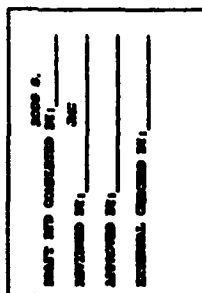| Name	Label	Description
B/8/1	RECORD B CARD B8 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON A LOGISTIC SUPPORT ANALYSIS RECORD (LSAR). THE LOCATION ON THE LSAR IS RECORD B, CARD B8, BLOCK 1. THIS AREA HOLDS THE IDENTIFICATION NUMBER (LCN) REFERENCING THE ITEM FUNCTION DEVELOPED IN THE FMEA ANALYSIS.
B/8/4	RECORD B CARD B8 BLOCK 4	THIS ENTITY REFERS TO A LOCATION ON A LOGISTIC SUPPORT ANALYSIS RECORD (LSAR). THE LOCATION ON THE LSAR IS RECORD B, CARD B8, BLOCK 4. THIS AREA HOLDS THE ITEM FUNCTION DEVELOPED IN THE FMEA ANALYSIS.
B1/13/1	REC B1 CARD B13 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON A LOGISTIC SUPPORT ANALYSIS RECORD (RECORD B1, CARD B13, BLOCK 1). THIS AREA HOLDS THE IDENTIFICATION NUMBER (LCN) REFERENCING THE MISSION PHASE AND OPERATIONAL MODE, AND FAILURE MODES AND CAUSES INFORMATION DEVELOPED IN THE FMEA ANALYSIS.
B1/13/3	REC B1 CARD B13 BLOCK 3	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD FMEA - FAILURE MODE AND EFFECTS ANALYSIS THIS ENTITY PUTS THE FAILURE MODE INDICATOR DETERMINED IN THE FMEA INTO LSAR RECORD B1, CARD B13, BLOCK 3.
B1/13/5	REC B1 CARD B13 BLOCK 5	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY TRANSFERS DATA RECIEVED TO ITS APPROPRIATE LSAR LOCATION. THE LOCATION FOR THIS RECORD IS BLOCK 5 OF RECORD B1, CARD B13. THE DATA RECIEVED IS THE FAILURE MODE CODE.
B1/13/6	REC B1 CARD B13 BLOCK 6	THIS ENTITY REFERS TO RECORD B1, CARD B13, BLOCK 8 ON THE LSAR CARD. THIS AREA HOLDS THE FAILURE MODES AND CAUSES INFORMATION DEVELOPED IN THE FMEA ANALYSIS.
B1/13/7	REC B1 CARD B13 BLOCK 7	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY TAKES THE DATA (MISSION PHASE CODE VALUE) AND TRANSFERS IT TO ITS APPROPRIATE LSAR LOCATION. THE LSAR LOCATION IS RECORD B1, CARD B13, BLOCK 7.
B1/13/8	REC B1 CARD B13 BLOCK 8	THIS ENTITY REFERS TO A LOCATION ON A LOGISTIC SUPPORT ANALYSIS RECORD (LSAR). THE LOCATION ON THE LSAR IS RECORD B1, CARD B13, BLOCK 8. THIS AREA HOLDS THE MISSION PHASE AND OPERATIONAL MODE INFORMATION DEVELOPED IN THE FMEA ANALYSIS.
B1/14/1	REC B1 CARD B14 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON AN LSAR CARD (RECORD B1, CARD B14, BLOCK 1). DATA WRITTEN TO THIS LOCATION IS THE IDENTIFICATION NUMBER (LOGISTIC CONTROL NUMBER) FOR THE RESPECTIVE DAMAGE/FAILURE EFFECTS DETERMINED IN THE FMECA.
B1/14/6	REC B1 CARD B14 BLOCK 6	THIS ENTITY REFERS TO AN LSAR LOCATION (RECORD B1, CARD B14, BLOCK 6). THIS RECORD SHALL CONTAIN THE DAMAGE/FAILURE EFFECTS DATA DETERMINED IN THE FMECA.

Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

APPENDIX B
SUBTASK 301.2.4.1.1A1B

Name	Label	Description

301.2.4.1.1A1B1   DEFINE   ACRONYM:
                   MISSION

                   FNC TIMES   PURPOSE OF PROCESS: DEFINE EACH MISSION IN TERMS OF FUNCTIONS WHICH
                   & OP MODE   IDENTIFY THE TASK TO BE PERFORMED AND THE FUNCTIONAL MODE OF OPERATION
                               FOR PERFORMING THE SPECIFIC FUNCTION. MISSION FUNCTIONS AND OPERATIONAL
                               MODES SHALL BE IDENTIFIED, STARTING AT THE HIGHEST SYSTEM LEVEL AND
                               PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE WORK BREAKDOWN
                               STRUCTURE TO BE ANALYZED.
                                   STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES SHALL ALSO BE
                               IDENTIFIED. WHEN MORE THAN ONE METHOD OF PERFORMING A PARTICULAR
                               FUNCTION IS AVAILABLE, THE ALTERNATIVE OPERATIONAL MODE SHALL BE
                               IDENTIFIED. ALL MULTIPLE FUNCTIONS UTILIZING DIFFERENT EQUIPMENT OR
                               GROUPS OF EQUIPMENT ALSO SHALL BE IDENTIFIED. THE FUNCTIONS AND OUTPUTS
                               FOR EACH INDENTURE LEVEL MAY ALSO BE PRESENTED IN A FUNCTION-OUTPUT
                               LIST OR IN NARRATIVE FORM.
                                   A QUANTITATIVE STATEMENT OF SYSTEM FUNCTION-TIME REQUIREMENTS SHALL
                               BE DEVELOPED. FUNCTION-TIME REQUIREMENTS SHALL BE DEVELOPED FOR ITEMS
                               WHICH OPERATE IN DIFFERENT OPERATIONAL MODES DURING DIFFERENT MISSION
                               PHASES AND FOR ITEMS WHICH FUNCTION ONLY IF REQUIRED.
                                   ONCE THE PROCESS IS COMPLETE, THE DATA IN NARRATIVE FORM IS SENT
                               TO AID IN THE CREATION OF FUNCTIONAL BLOCK DIAGRAMS (PROCESS
                               301.2.4.1.1A1B3) AND IDENTIFICATION OF ENVIRONMENTAL PROFILES (PROCESS
                               301.2.4.1.1A1B4). THE DATA SHALL ALSO BE WRITTEN TO PROCESS
                               301.2.4.1.1A1B6 (ASSEMBLE SYSTEM DEFINITION) FOR INCLUSION IN THE
                               NARRATIVE OF THE SYSTEM DEFINITION.
                               SOURCE OF PROCESS: MIL-HDBK-1629A

301.2.4.1.1A1B2   CATEGORZE   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                   PARTS BY   FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
                   PHYSICAL   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                   ATTRIBUTE   LCN - LOGISTICS CONTROL NUMBER
                                       ALC - ALTERNATE LOGISTIC SUPPORT ANALYSIS CONTROL NUMBER
                                             CODE
                                       CSC - CARD SEQUENCING CODE
                               PURPOSE OF PROCESS: CREATE A LIST WHICH WILL BE UTILIZED FURTHER IN THE
                               CREATION OF THE SYSTEM DEFINITION. THE LIST WILL BE THE ITEM BREAKDOWN
                               STRUCTURE ITEMIZING EACH INDENTURE LEVEL OF ANALYSIS. ITEMS WILL BE
                               CATEGORIZED BY PHYSICAL ATTRIBUTES, AND INCLUDE A GENERAL STATEMENT
                               ABOUT THE FUNCTION OF THE ITEM.
                                   EACH PART LISTED SHALL BE IDENTIFIED BY THE CODING SYSTEM
                               DETERMINED IN THE FMECA PLAN. IF THE LSAR IS REQUIRED, THE CODING
                               SYSTEM SHALL MATCH THAT OF THE LSAR'S LCN. FOR THE AUTOMATED LSAR, AN
                               ALC AND CSC ARE REQUIRED. THESE VALUES ARE FURTHER EXPLAINED IN
                               MIL-STD-1388-2A.
                                   ONCE COMPLETED, THE LIST WILL BE SENT TO PROCESSES 301.2.4.1.1A1B2
                               (DEFINE MISSION FUNCTION TIMES AND OPERATIONAL MODES), PROCESS
                               301.2.4.1.1A1B3 (CREATE FUNCTIONAL BLOCK DIAGRAM), PROCESS 301.2.4.1.1A2
                               (INITIATE FMEA WORKSHEET). DATA SHALL BE IN THE FORM OF A LIST
                               ORGANIZED BY PHYSICAL ATTRIBUTES OF THE PARTS.
                               SOURCE OF PROCESS: MIL-STD-1388-2A

Name	Label	Description
301.2.4.1.1A1B3	CREATE FUNCTIONL BLOCK DIAGRAM	ACRONYMS: FMECA - FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF PROCESS: CREATE A FUNCTIONAL BLOCK DIAGRAM, IF NOT ALREADY PROVIDED, FOR THE SYSTEM DEFINITION. THE FUNCTIONAL BLOCK DIAGRAM SHALL UTILIZE PROCEDURES AND TECHNIQUES FOR DEVELOPING MAJOR FUNCTION DIAGRAMS FOR GUIDANCE IN DEVELOPMENT (SEE MIL-STD-756).

A UNIFORM NUMBERING SYSTEM IS REQUIRED TO PROVIDE TRACEABILITY AND TRACKING THROUGH ALL LEVELS OF INDENTURE. THIS NUMBERING SYSTEM SHALL BE THE SAME AS USED IN OTHER RELIABILITY AND/OR MAINTAINABILITY PROGRAMS FOR THE SYSTEM IN QUESTION. THE NUMBERING SYSTEM SHALL BE DEFINED IN THE FMECA PLAN. MIL-STD-881 PROVIDES GUIDANCE FOR DEFENSE MATERIEL WORK BREAKDOWN STRUCTURE CODING THAT CAN BE USED AS A GUIDE IN DEVELOPING A CONSISTENT AND LOGICAL IDENTIFICATION CODE FOR BLOCK DIAGRAMS.

ONCE COMPLETED, THE FUNCTIONAL BLOCK DIAGRAM SHALL BE SENT TO THE RELIABILITY BLOCK DIAGRAM (PROCESS 301.2.4.1.1A1B5) FOR ASSISTANCE IN THE DEVELOPMENT THEREOF (E.G., KEEPING UNIFORM NUMBERING SYSTEM, ETC.), AND FROM THERE, SENT ALONG WITH THE RELIABILITY DIAGRAM TO PROCESS 301.2.4.1.1A1B6 FOR INCLUSION IN THE SYSTEM DEFINITION.
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-881

Name	Label	Description
301.2.4.1.1A1B4	IDENTIFY ENVIRNMTL PROFILES	ACRONYMS:

PURPOSE OF PROCESS: DEVELOP ENVIRONMENTAL PROFILES WHICH PRESENT THE ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE. WHEN A SYSTEM IS UTILIZED IN MORE THAN ONE ENVIRONMENT, EACH ENVIRONMENTAL PROFILE SHALL BE DESCRIBED. THE INTENDED USE THROUGH TIME OF THE SYSTEM AND ITS EQUIPMENTS SHALL BE DEVELOPED FROM THE MISSION TIME STATEMENTS FOR EACH ENVIRONMENTAL PROFILE. THE USE TIME-ENVIRONMENT PHASING DETERMINES TIME-STRESS RELATIONSHIPS AND THE FEASIBILITY OF FAILURE DETECTION METHODS AND COMPENSATING PROVISIONS IN THE OPERATING SYSTEM.

ONCE COMPLETE, THE ENVIRONMENTAL PROFILES SHALL BE SENT TO PROCESS 301.2.4.1.1A1B5 (CREATE RELIABILITY BLOCK DIAGRAMS) AND PROCESS 301.2.4.1.1A1B6 (ASSEMBLE SYSTEM DEFINITION), WHERE THE INFORMATION WILL BE USED TO FURTHER THE SYSTEM DEFINITION.
SOURCE OF PROCESS: MIL-HDBK-1629A

Name	Label	Description
301.2.4.1.1A1B5	CREATE RELIABLTY BLOCK DIAGRAM	ACRONYMS:

PURPOSE OF PROCESS: CREATE A RELIABILITY BLOCK DIAGRAM NEEDED FOR THE
SYSTEM DEFINITION. A RELIABILITY BLOCK DIAGRAM DEFINES THE DEPENDENCE
OR INDEPENDENCE OF ALL FUNCTIONS OF A SYSTEM OR FUNCTIONAL GROUP FOR
EACH LIFE-CYCLE EVENT. THE RELIABILITY BLOCK DIAGRAM WILL PROVIDE
IDENTIFICATION OF FUNCTION INTERDEPENDENCIES FOR THE SYSTEM.

MIL-STD-756 PROCEDURES ILLUSTRATE A METHOD WHICH MAY BE USED TO
DEVELOP RELIABILITY BLOCK DIAGRAMS. THE IDENTIFICATION NUMBERING
SYSTEM USED IN THE FUNCTIONAL BLOCK DIAGRAM SHALL BE USED AGAIN FOR
CONSISTENCY AND LOGICAL IDENTIFICATION OF ITEMS IN THE SYSTEM.
MIL-STD-881 SHALL BE USED FOR DETERMINING THE WORK BREAKDOWN STRUCTURE.
ONCE COMPLETE, IT IS SENT ALONG WITH THE RELIABILITY BLOCK DIAGRAM TO
PROCESS 301.2.4.1.1A1B6 FOR INCLUSION IN THE SYSTEM DEFINITION.
SOURCE OF PROCESS: MIL-HDBK-1629A, MIL-STD-756, MIL-STD-881

| 301.2.4.1.1A1B6 | ASSEMBLE SYSTEM DEFINITN | ACRONYMS: FMEA - FAILURE MODE AND EFFECTS |
| | | FMECA - FAILURE MODE EFFECT AND CRITICALITY ANALYSIS |

PURPOSE OF PROCESS: TIE UP LOOSE ENDS REMAINING IN THE ASSEMBLY OF
SYSTEM DEFINITION. DIFFERENT DATA FLOWS MUST BE ASSEMBLED INTO ONE
LEGIBLE REPORT FOR FURTHER USE IN THE FMEA (PROCESS 301.2.4.1.1A3 &
1A4), THE CRITICALITY ANALYSIS (PROCESS 301.2.4.1.2A4B4), THE DMEA
(PROCESS 301.2.4.1.4A2) AND FINALLY IN THE ASSEMBLY OF THE FMECA REPORT
(PROCESS 301.2.4.1.6).

THE SYSTEM DEFINITION SHALL CONTAIN, AT LEAST, THE FUNCTIONAL
NARRATIVES DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL
MODE, INCLUDING STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES.
NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION
PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT
UTILIZATION, FUNCTIONS AND OUTPUT OF EACH ITEM, AND CONDITIONS WHICH
CONSTITUTE SYSTEM AND PART FAILURE. STATEMENTS OF ENVIRONMENTAL
PROFILES REPRESENTING ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH
MISSION AND MISSION PHASE, AND THE FUNCTIONAL AND RELIABILITY BLOCK
DIAGRAMS SHALL ALSO BE INCLUDED. RULES FOR THE AUTOMATED LSAR CODE
(I.E., MISSION PHASE CODE, FAILURE MODE CODE AND FAILURE MODE INDICATOR)
SHALL BE DISTRIBUTED TO THEIR APPROPRIATE PROCESS.
SOURCE OF PROCESS: MIL-HDBK-1629A

Name	Label	Description
AUTO/LSAR/RULES	AUTOMATED LSAR RULES (3 ENTRIES)	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: SUPPLY THE ANALYST WITH RULES GOVERNING THE CREATION OF CODES RELATING TO THE LSAR. RULES ARE SUPPLIED FOR THE FOLLOWING: 1. FAILURE MODE INDICATOR 2. MISSION PHASE CODE 3. FAILURE MODE CODE SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS
BLCK/DIA	BLOCK DIAGRAMS	ACRONYMS: FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: ALLOW THE ANALYST ACCESS TO THE FUNCTIONAL AND RELIABILITY DIAGRAMS. THESE WILL BE INCLUDED IN THE SYSTEM DEFINITION AND ARE NECESSARY TO DEVELOP THE FMEA. A FUNCTIONAL BLOCK DIAGRAM ILLUSTRATES THE OPERATION AND INTERRELATIONSHIPS BETWEEN FUNCTIONAL ENTITIES OF A SYSTEM AS DEFINED IN ENGINEERING DATA AND SCHEMATICS. IT PROVIDES A FUNCTIONAL FLOW SEQUENCE FOR THE SYSTEM AND EACH INDENTURE LEVEL OF ANALYSIS. THE RELIABILITY BLOCK DIAGRAM DEFINES THE SERIES DEPENDENCE OR INDEPENDENCE OF ALL FUNCTIONS OF A SYSTEM OR FUNCTIONAL GROUP FOR EACH LIFE-CYCLE EVENT. IT PROVIDES IDENTIFICATION OF FUNCTION INTERDEPENDENCIES FOR THE SYSTEM. SOURCE OF DATA: FUNCTIONAL BLOCK DIAGRAM - PROCESS 301.2.4.1.1A1B3 (CREATE FUNCTIONAL BLOCK DIAGRAM) RELIABILITY BLOCK DIAGRAM - PROCESS 301.2.4.1.1A1B5 (CREATE RELIABILITY BLOCK DIAGRAMS)
COD/SYS	CODING SYSTEM	ACRONYMS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE A SYSTEM THAT HAS CONSISTENT IDENTIFICATION OF INVESTIGATED SYSTEM FUNCTIONS AND EQUIPMENT FOR TRACKING FAILURE MODES. ANALYST SHALL ADHERE TO THE CODING SYSTEM OF MIL-STD-1388-2 (LCN), BASED ON THE HARDWARE BREAKDOWN STRUCTURE OF MIL-STD-881, WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR OTHER SIMILAR UNIFORM SYSTEMS. THE CODING SYSTEM SHALL BE CONSISTENT WITH THE RELIABILITY AND FUNCTIONAL BLOCK DIAGRAM NUMBERING SYSTEM TO PROVIDE COMPLETE VISIBILITY OF EACH FAILURE MODE AND ITS RELATIONSHIP TO THE SYSTEM. SOURCE OF DATA: PROCESS 301.2.4.1.5A4 (IDENTIFY CODING SYSTEM)
DES/DAT/DRWGS	DESIGN DATA & DRAWINGS	ACRONYMS: PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: SYSTEM DETAIL DESIGNER

Name	Label	Description

DI-S-3604/S-126-1   DATA ITEM   ACRONYMS:
                         DESCRIPTION

                         DI-S-3604/   PURPOSE OF DATA: AID THE ANALYST IN DETERMINING FORMATS FOR FUNCTIONAL
                         S-126-1   FLOW DIAGRAMS. THE DATA COMES IN THE FORM OF A DID UNDER THE TITLE:
                                         "FUNCTIONAL FLOW DIAGRAMS."
                                         SOURCE OF DATA: POLICY FILES

ENV/PROF   ENVIRONMENTL   ACRONYMS:
                           PROFILES

                                         PURPOSE OF DATA: INFORM THE ANALYST ABOUT ENVIRONMENTAL PROFILES TO
                                         WHICH THE SYSTEM UNDER CONSIDERATION WILL BE SUBJECTED. INTENDED USE,
                                         THROUGH TIME, OF THE SYSTEM AND ITS EQUIPMENTS SHALL BE DEVELOPED FROM
                                         THE MISSION TIME STATEMENTS FOR EACH ENVIRONMENTAL PROFILE AND SHALL BE
                                         INCLUDED IN THIS DATA FLOW.
                                         SOURCE OF DATA: PROCESS 301.2.4.1.1A1B4 (IDENTIFY ENVIRONMENTAL
                                                            PROFILES)

FAIL/CRIT   FAILURE   ACRONYMS:
                         CRITERIA

                                         PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE
                                         OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR
                                         EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT
                                         WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY.
                                         SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND
                                                            ASSUMPTIONS)

FUN/BLK/DIA   FUNCTIONAL   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                         BLOCK
                         DIAGRAM   PURPOSE OF DATA: ALLOW THE ANALYST ACCESS TO THE FUNCTIONAL BLOCK
                                         DIAGRAMS NEEDED TO COMPLETE THE FMEA. THE FUNCTIONAL BLOCK DIAGRAM
                                         ILLUSTRATES THE OPERATION AND INTERRELATIONSHIPS BETWEEN FUNCTIONAL
                                         ENTITIES OF A SYSTEM AS DEFINED IN ENGINEERING DATA AND SCHEMATICS. IT
                                         PROVIDES A FUNCTIONAL FLOW SEQUENCE FOR THE SYSTEM AND EACH INDENTURE
                                         LEVEL OF ANALYSIS.
                                         SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3 (CREATE FUNCTIONAL BLOCK
                                                            DIAGRAMS)

GEN/PRT/LST   GENERIC   ACRONYM: FMECA - FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS
                         PARTS
                         LIST   PURPOSE OF DATA: PROVIDE THE ANALYST WITH A LIST OF THE DIFFERENT PARTS
                                         COMPRISING THE WORK BREAKDOWN STRUCTURE FOR THE DEVELOPMENTAL
                                         ITEM/SYSTEM, RELATING THE PARTS TO THE VARIOUS INDENTURE LEVELS UNDER
                                         INVESTIGATION. DATA SHALL BE IN THE FORM OF A LIST, WITH EACH PART
                                         RELATED TO AND COINCIDING WITH THE IDENTIFICATION NUMBER ASSIGNED TO
                                         THE PART THROUGH THE CODING SYSTEM CHOSEN IN THE FMECA PLAN. PARTS SHALL
                                         BE LISTED BY PHYSICAL ATTRIBUTES AND CONTAIN A DESCRIPTION OF THE
                                         FUNCTION OF THE ITEM.
                                         SOURCE OF DATA: PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL
                                                            ATTRIBUTES)

Name	Label	Description

IND/LVL   INDENTURE   ACRONYMS:
                   LEVEL

                                  PURPOSE OF DATA: PROVIDE THE ANALYST WITH DETAILED BREAKDOWN OF THE
                                  SYSTEM TO BE INVESTIGATED. THE INDENTURE LEVEL APPLIES TO THE SYSTEM
                                  HARDWARE OR FUNCTIONAL LEVEL AT WHICH FAILURES ARE POSTULATED. UNLESS
                                  OTHERWISE SPECIFIED, THE ANALYST SHALL ESTABLISH THE LOWEST INDENTURE
                                  LEVEL OF ANALYSIS.
                                  SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND
                                                      ASSUMPTIONS)

MIL-M-24100   MIL-M-24100   ACRONYMS:
                                  PURPOSE OF DATA: PROVIDE THE ANALYST WITH ILLUSTRATIONS AND GUIDANCE
                                  FOR DEVELOPING FUNCTIONAL BLOCK DIAGRAMS. THESE ILLUSTRATIONS MAY
                                  ASSIST THE ANALYST IN DEVELOPING THE FUNCTIONAL BLOCK DIAGRAMS. THE
                                  MANUAL IS ENTITLED: "MILITARY SPECIFICATION MANUALS, TECHNICAL:
                                  FUNCTIONALLY ORIENTED MAINTENANCE MANUALS (FOMM) FOR EQUIPMENT AND
                                  SYSTEMS."
                                  SOURE OF DATA: POLICY FILES

MIL-STD-756   MIL-STD-756   ACRONYMS:
                                  PURPOSE OF DATA: PROVIDE THE ANALYST WITH COMMON GROUND RULES FOR
                                  TECHNIQUES AND DATA SOURCES USED TO FORMULATE RELIABILITY MODELS AND
                                  PREDICTIONS SO THEY MAY BE UNIFORMLY APPLIED AND INTERPRETED. THIS
                                  STANDARD ("RELIABILITY MODELING AND PREDICTION") ESTABLISHES PROCEDURES
                                  AND GROUND RULES INTENDED TO ACHIEVE THIS PURPOSE.
                                  SOURCE OF DATA: POLICY FILES

Name	Label	Description

MIL-STD-881	MIL-STD-881 WORK BREAKDN STRUCTURES FOR DEFENSE MATER'L ITEM	ACRONYMS:
		
		PURPOSE OF DATA: AID THE ANALYST BY PROVIDING GUIDANCE IN PREPARING A STANDARD WORK BREAKDOWN STRUCTURE. DATA IS IN THE FORM OF A MILITARY STANDARD PAMPHLET, "WORK BREAKDOWN STRUCTURES FOR DEFENSE MATERIEL ITEMS.".
		THE MIL-STD IDENTIFIES ARMY MATERIEL BY GENERAL CLASSIFICATIONS:
		    1. AIRCRAFT SYSTEM
		    2. ELECTRONICS SYSTEM
		    3. MISSILE SYSTEM
		    4. ORDNANCE SYSTEM
		    5. SHIP SYSTEM
		    6. SPACE SYSTEM
		    7. SURFACE VEHICLE SYSTEM
		EACH OF THE MAJOR CATEGORIES (LEVEL 1 ITEMS) IS FURTHER STRATIFIED INTO MAJOR SYSTEMS (LEVEL 2 ITEMS). AS AN EXAMPLE, AIRCRAFT SYSTEMS ARE BROKEN DOWN INTO THE FOLLOWING MAJOR SYSTEMS:
		    1. AIR VEHICLE
		    2. TRAINING
		    3. PECULIAR SUPPORT EQUIPMENT
		    4. SYSTEM TEST AND EVALUATION
		    5. SYSTEM/PROJECT MANAGEMENT
		    6. DATA
		    7. OPERATIONAL/SITE ACTIVATION
		    8. COMMON SUPPORT EQUIPMENT
		    9. INDUSTRIAL FACILITIES
		    10. INITIAL SPARES AND INITIAL REPAIR PARTS
		LEVEL 3 ITEMS CONTAIN THE LAST INDENTURE FOR WHICH GUIDANCE IS PROVIDED. THIS LEVEL ADDRESSES SUCH ITEMS AS AIRFRAME, PROPULSION UNITS, COMMUNICATIONS, ETC. HOWEVER, GUIDANCE IN THE MIL-STD STATES THAT ..."THE PROJECT SUMMARY WBS WILL BE TAILORED TO THE PROJECT OBJECTIVES.."
		SOURCE OF DATA: POLICY FILES

MIS/FUN/OP/MD	MISSION FUNCTION, TIMES, AND OPERATIONAL MODES	ACRONYM: PURPOSE OF DATA: PROVIDE THE ANALYST WITH A CONCISE STATEMENT OF THE MISSION FUNCTION, TIMES AND OPERATIONAL MODE IN WHICH FAILURE OCCURS. WHERE SUBPHASE, EVENT, OR TIME CAN BE DEFINED FROM DEFINITIONS AND MISSION PROFILES, THE MOST DEFINITIVE TIMING INFORMATION SHOULD ALSO BE ENTERED FOR THE ASSUMED TIME OF FAILURE OCCURRENCE. DATA IS USED IN FURTHER DEVELOPMENT OF THE SYSTEM DEFINITION. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B1 (DEFINE MISSION FUNCTION TIMES AND OPERATIONAL MODES)

Name	Label	Description
REL/DATA	RELIABILITY DATA	ACRONYM: PURPOSE OF DATA: PROVIDE THE ANALYST WITH APPROPRIATE RELIABILITY DATA. DETERMINATION OF THE POSSIBLE AND PROBABLE FAILURE MODES REQUIRES AN ANALYSIS OF RELIABILITY DATA ON THE ITEM SELECTED TO PERFORM EACH SYSTEM'S INTERNAL FUNCTIONS. IT IS ALWAYS DESIRABLE TO USE DATA RESULTING FROM RELIABILITY TESTS ON THE SPECIFIC EQUIPMENT TO BE USED, PERFORMED UNDER REALISTIC CONDITIONS. WHEN SUCH TESTS ARE NOT AVAILABLE, RELIABILITY DATA FROM MIL-HDBK-217 OR FROM OPERATIONAL EXPERIENCE AND TESTS PERFORMED UNDER SIMILAR USE CONDITIONS ON ITEMS SIMILAR TO THOSE IN THE SYSTEM SHOULD BE USED. SOURCE OF DATA: HISTORICAL FILES OR TEST RESULTS
SYS/DEF	SYSTEM DEFINITION	ACRONYM: PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM INVESTIGATED. SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS, OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES. ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION. INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED. SOURCE OF DATA: CONTRACT REQUIREMENTS

Name	Label	Description
TR/OFF/STDY/RPT	TRADE OFF STUDY REPORTS	ACRONYM: FMEA - FAILURE MODES AND EFFECTS ANALYSIS

PURPOSE OF DATA: ASSIST IN THE DERIVATION OF THE SYSTEM DEFINITION.
REPORTS SHOULD IDENTIFY AREAS OF MARGINAL AND STATE-OF-THE-ART DESIGN,
AND EXPLAIN ANY DESIGN COMPROMISES AND OPERATING RESTRAINTS AGREED UPON.
THIS INFORMATION WILL AID IN DETERMINING THE POSSIBLE AND MOST PROBABLE
FAILURE MODES AND CAUSES IN THE SYSTEM.
SOURCE OF DATA: INPUT FROM TASK 303

Name	Label	Description
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY):

    1. RELIABILITY DATA

    2. FAILURE RATE DATA

    3. SPARES AND SPARE FUNDING DATA

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM.

THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
             AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
             SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
             REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
             SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

APPENDIX B
SUBTASK 301.2.4.1.1A1B3C

Name	Label	Description
301.2.4.1.1A1B3C1	ESTABLISH FUNCTIONL PROCEDURL TECHNQUES	ACRONYMS:

PURPOSE OF PROCESS: ESTABLISH TECHNIQUES TO BE USED IN CREATING THE FUNCTIONAL BLOCK DIAGRAMS. ANALYST SHALL FOLLOW THE TECHNIQUES LISTED HEREIN OR ESTABLISH SIMILAR TECHNIQUES OF HIS OWN.

FUNCTIONAL BLOCK DIAGRAMS SHALL PORTRAY THE FUNCTIONAL HIERARCHIAL SUBDIVISIONS BY BLOCKED AREAS AS REQUIRED BY THE FOLLOWING DIAGRAMS:

   a. OVERALL AND INTERMEDIATE FUNCTION DIAGRAMS. EACH MAJOR OR INTERMEDIATE FUNCTION OF THE EQUIPMENT SHALL BE REPRESENTED BY A BLOCK

   b. MAJOR FUNCTION AND SUB-FUNCTION DIAGRAMS. FUNCTIONAL ENTITIES SHALL BE PORTRAYED BY LINE ART SHAPES (MIL-M-24100B, SECTION 3.3.2.5.1.2.1). A SINGLE OR GROUP OF LINE ART SHAPES, REPRESENTING THE FUNCTIONAL ENTITIES OF THE EQUIPMENT OR A SINGLE PIECE OF HARDWARE, SHALL BE ENCLOSED IN A BLOCKED AREA AND GIVEN A FUNCTIONAL TITLE.

   c. BLOCKED SCHEMATIC DIAGRAMS. EACH FUNCTIONAL ENTITY SHALL BE BLOCKED TO SHOW FUNCTIONAL SIGNIFICANCE.

FUNCTIONAL BLOCKS IN FINAL MANUALS SHALL BE ENTIRELY SHADED IN BLUE. DARKER SHADES OF BLUE SHALL BE USED TO INDICATE FUNCTIONAL SUBORDINATION, EXCEPT FOR FUNCTIONAL ENTITIES WHICH SHALL BE LINE ART SYMBOLS. FUNCTIONAL BLOCKS IN PRELIMINARY MANUALS SHALL APPEAR ON A WHITE BACKGROUND, I.E., NOT OVERPRINTED WITH BLUE. FUNCTIONAL BLOCKS IN REVIEW MANUSCRIPTS SHALL BE ENCLOSED IN A DOTTED BORDER, EXCEPT FOR FUNCTIONAL ENTITIES, WHICH SHALL BE LINE ART SYMBOLS.
SOURCE OF PROCESS: MIL-M-24100B

Name	Label	Description
301.2.4.1.1A1B3C2	ESTABLISH HARDWARE PROCEDURL TECHNQUES	ACRONYMS:

PURPOSE OF PROCESS: ESTABLISH TECHNIQUES TO BE USED IN CREATING FUNCTIONAL BLOCK DIAGRAMS. THE ANALYST SHALL FOLLOW THE TECHNIQUES LISTED WITHIN OR ESTABLISH SIMILAR TECHNIQUES OF HIS OWN.

HARDWARE (UNITS, ASSEMBLIES, SUBASSEMBLIES, OR PARTS THEREOF) SHALL ALWAYS BE ENCLOSED BY BLOCKS, IDENTIFIED IN THE UPPER LEFT CORNER OF THE HARDWARE BLOCK. IN FINAL AND PRELIMINARY MANUALS, HARDWARE SHALL BE REPRESENTED BY LEVELS OF GREY SHADING. WHEN A UNIT, ASSEMBLY, AND SUBASSEMBLY ARE SHOWN ON THE SAME DIAGRAM, THE LIGHTEST SHADE OF GREY SHALL REPRESENT THE UNIT; THE NEXT DARKER SHADE OF GREY SHALL REPRESENT THE ASSEMBLY; AND THE NEXT DARKER SHADE OF GREY SHALL REPRESENT THE SUBASSEMBLY, ETC. A DIAGRAM TREATING A SINGLE ASSEMBLY WILL USE THE LIGHTEST SHADE OF GREY TO REPRESENT THE ASSEMBLY AND DARKER SHADES FOR SUBASSEMBLIES. CONSISTENCY OF GREY SHADES SHALL NOT BE MAINTAINED FOR HARDWARE LEVELS BETWEEN DIFFERENT DIAGRAMS, SO THAT THE LIGHTER GREY SHADES CAN BE USED. ALL DIAGRAMS SHALL BE PLANNED SO THAT FUNCTIONAL BLOCKS MAY HAVE GREY SHADING UNDERCUT SO THE BLUE SHADING SHALL NOT OVERPRINT THE GREY SHADINGS. HARDWARE BLOCKS SHALL BE SHAPED OR BROKEN AS NECESSARY TO ACCOMMODATE THIS REQUIREMENT.

HARDWARE DEFINITION FOR REVIEW MANUSCRIPTS SHALL BE BY DASH, DOT, AND DASH LINES, WITH THE NUMBER OF DOTS DENOTING HARDWARE LEVEL OF CONTAINMENT, I.E., ONE DOT INDICATING LIGHTEST SHADE OF GREY, TWO DOTS THE SECOND SHADE OF GREY, ETC.

DIRECTION OF SIGNAL FLOW SHALL BE GIVEN PRIORITY OVER HARDWARE LAYOUT; ACCORDINGLY, HARDWARE BLOCKS SHALL BE SHAPED OR BROKEN AS NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL FLOW TO BE SHOWN AS A FLOW FROM LEFT TO RIGHT.

SOURCE OF PROCESS: MIL-M-24100B

Name	Label	Description
301.2.4.1.1A1B3C3	ESTABLISH GENERAL PROCEDURL TECHNQUES	ACRONYMS:

PURPOSE OF PROCESS: ESTABLISH TECHNIQUES FOR COMPLETING THE FUNCTIONAL BLOCK DIAGRAMS. THE ANALYST MAY WISH TO ESTABLISH TECHIQUES OF HIS OWN WHERE APPROPRIATE FOR THE BLOCK DIAGRAMS.

EACH FUNCTIONAL BLUE SHADED AREA (FUNCTIONAL ENTITIES, PARTS, AND OTHER BLOCKS NEEDING EXPLANATION) SHALL BE ASSIGNED AN ENCIRCLED ARABIC KEY NUMBER JUST PRIOR TO THE NAME OR FUNCTIONAL ENTITY IDENTIFIER CODE OR REFERENCE DESIGNATION. THE KEY NUMBER SHOULD BE ASSIGNED SEQUENTIALLY IN DIRECT RELATIONSHIP TO FUNCTIONAL SIGNAL FLOW. FOR CONSISTENT IDENTIFICATION OF SYSTEM FUNCTIONS AND EQUIPMENT, AND FOR TRACKING FAILURE MODES, THE ANALYST SHALL ADHERE TO A CODING SYSTEM BASED UPON THE HARDWARE BREAKDOWN STRUCTURE, WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR SIMILAR UNIFORM NUMBERING SYSTEM. THE NATURE AND DIRECTION OF ENERGY, SIGNAL, OR DATA FLOW SHALL BE CODED BY SPECIAL ARROWHEADS SUPERIMPOSED ON SIGNAL LINES, IN ADDITION TO APPROPRIATE FLAGGED ANNOTATIONS. FLOW LINES SHALL BE CONNECTED TO ILLUSTRATE SUBORDINATION OR COORDINATION OF FLOW IMPORTANCE AS INDICATED BELOW.

SUBORDINATE JUNCTIONS ARE SHOWN AS FOLLOWS:

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------>----*------->----          ------->---*----->------
           |                            .     |
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COORDINATE JUNCTIONS ARE SHOWN AS FOLLOWS:

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---->-----|                                  |----->------
        *-------->-----          ------->---*
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MEANINGFUL SIGNAL NAMES OR CODES SHALL BE PROVIDED FOR EACH CONNECTION INTO AND OUT OF BLOCKED SCHEMATIC DIAGRAMS. SIGNAL NAMES SHALL BE LOCATED WITHIN THE BODY OF DIAGRAMS AS NECESSARY TO IDENTIFY SIGNIFICANT SIGNAL PATHS, WHICH SHALL BE PLACED WITHIN A FLAG. WHEN THERE IS NO ROOM FOR SIGNAL FLAGS, THE SIGNAL NAME OR CODE MAY BE PLACED IN LINE WITH THE SIGNAL LINE. NAMES OF PARTICULAR SIGNALS SHALL BE CONSISTENT FROM ONE DIAGRAM TO THE NEXT. SIGNIFICANCE OF SIGNAL PATHS SHALL BE INDICATED BY LINE WEIGHT; HEAVY WEIGHT LINES REPRESENT A MAJOR SIGNAL PATH. THE RATIO BETWEEN NORMAL LINE WEIGHT AND HEAVY LINE WEIGHT SHALL BE AT LEAST 3 TO 1. LINE WEIGHTS ON A DIAGRAM OF ONE HEIRARCHICAL LEVEL ARE NOT NECESSARILY THE SAME (FOR THE SAME SIGNAL) ON A DIFFERENT HIERARCHICAL LEVEL DIAGRAM. WHERE POSSIBLE, TEST POINTS SHALL BE SHOWN OUTSIDE OF FUNCTIONAL (BLUE SHADED) AREAS. THE MARKED NOMENCLATURE OF FRONT PANEL TEST POINTS SHALL APPEAR ON A WHITE BACKGROUND. MECHANICAL CONNECTIONS SHALL BE REPRESENTED BY DASHED-LINES UNLESS PICTORIALLY ILLUSTRATED. SHIELDING SHALL BE SHOWN ON MAJOR FUNCTION DIAGRAMS, SUBFUNCTION DIAGRAMS, AND ASSEMBLY SCHEMATIC DIAGRAMS. THE GROUND RETURN SYMBOL SHALL IDENTIFY THE END OF THE SHIELD WHERE THE RETURN IS ACCOMPLISHED. ADJUSTMENTS AND CONTROLS SHALL BE IDENTIFIED PICTORIALLY TO INDICATE THE MEANS OF ADJUSTMENT, OR INDICATION. THE ADJUSTMENT OR CONTROL MARKED NOMENCLATURE AND ITS APPROPRIATE SYMBOL SHALL APPEAR IN THE HARDWARE AREA REPRESENTATIVE OF THE HARDWARE UPON WHICH IT IS LOCATED. THE RELATIONSHIP OF AN ADJUSTMENT OR CONTROL TO THE PROPER PART SHALL BE ILLUSTRATED BY A DASHED-LINE CONNECTION. FRONT PANEL

Name	Label	Description
301.2.4.1.1A1B3C4	ASSEMBLE FUNCTIONL BLOCK DIAGRAM	ACRONYMS: PURPOSE OF DATA: WHEN NOT SUPPLIED IN DESIGN DATA AND DRAWINGS, THE FUNCTIONAL BLOCK DIAGRAM MUST BE CREATED IN ACCORDANCE WITH DATA ITEM DESCRIPTION NUMBER D1-S-3604/S-126-1. BY FOLLOWING PROCEDURES AND TECHNIQUES SET FORTH AND DEVELOPED IN THE PREVIOUS PROCESSES, THE ANALYST SHALL CREATE A FUNCTIONAL BLOCK DIAGRAM FOR THE SYSTEM UNDER CONSIDERATION. UPON COMPLETION, THIS DIAGRAM SHALL BE SENT TO PROCESS 301.2.4.1.1A1B5 TO AID IN THE CREATION OF THE RELIABILITY BLOCK DIAGRAM. ONCE THE RELIABILITY BLOCK DIAGRAM IS FINISHED, BOTH IT AND THE FUNCTIONAL BLOCK DIAGRAM SHALL BE SENT TO PROCESS 301.2.4.1.1A1B6 FOR INCLUSION IN THE DEFINITION OF THE SYSTEM. SOURCE OF DATA:

Name	Label	Description
DES/DAT/DRWGS	DESIGN DATA & DRAWINGS	ACRONYMS:
		PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: SYSTEM DETAIL DESIGNER
DI-S-3604/S-126-1	DATA ITEM DESCRIPTION DI-S-3604/ S-126-1	ACRONYMS:
		PURPOSE OF DATA: AID THE ANALYST IN DETERMINING FORMATS FOR FUNCTIONAL FLOW DIAGRAMS. THE DATA COMES IN THE FORM OF A DID UNDER THE TITLE: "FUNCTIONAL FLOW DIAGRAMS." SOURCE OF DATA: POLICY FILES
FBD/FUNC/PROC/DTA	FUNCTIONAL PROCEDURE DATA	ACRONYMS:
		PURPOSE OF DATA: TO INFORM THE ANALYST ABOUT THE FUNCTIONAL PROCEDURES CHOSEN FOR CREATION OF THE FUNCTIONAL BLOCK DIAGRAM. IF NO ALTERATIONS ARE MADE TO PROCEDURES SUGGESTED IN THE SOURCE, THE ESTABLISHED PROCEDURES WILL BE IN THIS DATA FLOW. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3C1 (DETERMINE FUNCTIONAL PROCEDURAL TECHIQUES)
FBD/GEN/PROC/DTA	GENERAL PROCEDURAL DATA	ACRONYMS:
		PURPOSE OF DATA: INFORM THE ANALYST ABOUT TECHNIQUES CHOSEN FOR THE GENERAL PROCEDURES IN CREATING THE FUNCTIONAL BLOCK DIAGRAM. IF NOT ALTERED, THE PROCEDURES SUGGESTED IN THE DATA SOURCE SHALL BE CONTAINED HEREIN. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3C3 (ESTABLISH GENERAL PROCEDURAL TECHNIQUES)
FBD/HARD/PROC/DTA	HARDWARE PROCEDURAL DATA	ACRONYMS:
		PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE HARDWARE PROCEDURAL TECHNIQUES DEVELOPED IN THE PREVIOUS PROCESS. IF NO ALTERATIONS WERE MADE TO ESTABLISHED TECHNIQUES, THEY SHALL BE CONTAINED HEREIN. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3C2 (ESTABLISH HARDWARE PROCEDURAL TECHNIQUES)

Name   Label   Description
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FUN/BLK/DIA   FUNCTIONAL   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                        BLOCK
                        DIAGRAM   PURPOSE OF DATA: ALLOW THE ANALYST ACCESS TO THE FUNCTIONAL BLOCK
                                        DIAGRAMS NEEDED TO COMPLETE THE FMEA. THE FUNCTIONAL BLOCK DIAGRAM
                                        ILLUSTRATES THE OPERATION AND INTERRELATIONSHIPS BETWEEN FUNCTIONAL
                                        ENTITIES OF A SYSTEM AS DEFINED IN ENGINEERING DATA AND SCHEMATICS. IT
                                        PROVIDES A FUNCTIONAL FLOW SEQUENCE FOR THE SYSTEM AND EACH INDENTURE
                                        LEVEL OF ANALYSIS.
                                        SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3 (CREATE FUNCTIONAL BLOCK
                                                         DIAGRAMS)

GEN/PRT/LST   GENERIC   ACRONYM: FMECA - FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS
                        PARTS
                        LIST   PURPOSE OF DATA: PROVIDE THE ANALYST WITH A LIST OF THE DIFFERENT PARTS
                                        COMPRISING THE WORK BREAKDOWN STRUCTURE FOR THE DEVELOPMENTAL
                                        ITEM/SYSTEM, RELATING THE PARTS TO THE VARIOUS INDENTURE LEVELS UNDER
                                        INVESTIGATION. DATA SHALL BE IN THE FORM OF A LIST, WITH EACH PART
                                        RELATED TO AND COINCIDING WITH THE IDENTIFICATION NUMBER ASSIGNED TO
                                        THE PART THROUGH THE CODING SYSTEM CHOSEN IN THE FMECA PLAN. PARTS SHALL
                                        BE LISTED BY PHYSICAL ATTRIBUTES AND CONTAIN A DESCRIPTION OF THE
                                        FUNCTION OF THE ITEM.
                                        SOURCE OF DATA: PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL
                                                         ATTRIBUTES)

MIL-M-24100   MIL-M-24100   ACRONYMS:
                                        PURPOSE OF DATA: PROVIDE THE ANALYST WITH ILLUSTRATIONS AND GUIDANCE
                                        FOR DEVELOPING FUNCTIONAL BLOCK DIAGRAMS. THESE ILLUSTRATIONS MAY
                                        ASSIST THE ANALYST IN DEVELOPING THE FUNCTIONAL BLOCK DIAGRAMS. THE
                                        MANUAL IS ENTITLED: "MILITARY SPECIFICATION MANUALS, TECHNICAL:
                                        FUNCTIONALLY ORIENTED MAINTENANCE MANUALS (FOMM) FOR EQUIPMENT AND
                                        SYSTEMS."
                                        SOURE OF DATA: POLICY FILES

MIS/FUN/OP/MD   MISSION   ACRONYM:
                        FUNCTION,
                        TIMES, AND   PURPOSE OF DATA: PROVIDE THE ANALYST WITH A CONCISE STATEMENT OF THE
                        OPERATIONAL   MISSION FUNCTION, TIMES AND OPERATIONAL MODE IN WHICH FAILURE OCCURS.
                        MODES
                                            WHERE SUBPHASE, EVENT, OR TIME CAN BE DEFINED FROM DEFINITIONS AND
                                        MISSION PROFILES, THE MOST DEFINITIVE TIMING INFORMATION SHOULD ALSO BE
                                        ENTERED FOR THE ASSUMED TIME OF FAILURE OCCURRENCE. DATA IS USED IN
                                        FURTHER DEVELOPOMENT OF THE SYSTEM DEFINITION.
                                        SOURCE OF DATA: PROCESS 301.2.4.1.1A1B1 (DEFINE MISSION FUNCTION TIMES
                                                         AND OPERATIONAL MODES)

Name	Label	Description
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL
SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND
CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES
WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR
OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN
THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING
THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION.
TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF
FAILURE DETECTION AND CORRECTION.

   INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL
DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS
AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED
ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME
RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED.
A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO
UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST
BE DEVELOPED.
SOURCE OF DATA: CONTRACT REQUIREMENTS

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM.

THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

APPENDIX B
SUBTASK 301.2.4.1.1A1B5C

Name	Label	Description
301.2.4.1.1A1B5C1	STATEMENT OF SUCC CONDITION ASSUMPTN	ACRONYMS:

PURPOSE OF PROCESS: DEVELOP SUCCESS CRITERIA, CONDITIONS THAT INFLUENCE
THE BLOCK DIAGRAM, AND ASSUMPTIONS USED IN PREPARATION OF THE BLOCK
DIAGRAM. EACH RELIABILITY BLOCK DIAGRAM SHALL INCLUDE A STATEMENT OF
CONDITIONS LISTING ALL CONSTRAINTS WHICH INFLUENCE THE CHOICE OF BLOCK
PRESENTATION, THE RELIABILITY PARAMETERS OR RELIABILITY VARIABLES
UTILIZED IN THE ANALYSIS, AND THE ASSUMPTIONS OR SIMPLIFICATIONS
UTILIZED TO DEVELOP THE DIAGRAM. ONCE ESTABLISHED, THESE CONDITIONS
SHALL BE OBSERVED THROUGHOUT THE ANALYSIS.

A STATEMENT OF SUCCESS SHALL BE DEFINED IN SPECIFIC TERMS STATING
EXACTLY WHAT THE CALCULATED RELIABILITY REPRESENTS FOR THE ITEMS AS
DIAGRAMMED AND PERFORMING UNDER THE CRITERIA PRESENTED IN THE STATEMENT
OF CONDITIONS.

TWO TYPES OF ASSUMPTIONS SHALL BE USED IN PREPARING RELIABILITY
BLOCK DIAGRAMS: (1) TECHNICAL AND (2) GENERAL. TECHNICAL ASSUMPTIONS
MAY BE DIFFERENT FOR EACH ITEM AND FOR EACH MODE OF OPERATION, AND
SHALL BE SET FORTH UNDER THE STATEMENT OF CONDITIONS. THE GENERAL
ASSUMPTIONS ARE THOSE APPLICABLE TO ALL RELIABILITY BLOCK DIAGRAMS. IT
IS NOT NECESSARY TO LIST THE GENERAL ASSUMPTIONS NOTED BELOW ON THE
RELIABILITY BLOCK DIAGRAMS, PROVIDED REFERENCE HAS BEEN MADE TO
MIL-STD-756B. THE FOLLOWING GENERAL ASSUMPTIONS SHALL APPLY TO
RELIABILITY BLOCK DIAGRAMS:

a. THE BLOCKS DENOTE *ELEMENTS OR FUNCTIONS* OF THE ITEMS THAT ARE
    CONSIDERED WHEN EVALUATING RELIABILITY AND WHICH HAVE
    ASSOCIATED RELIABILITY VALUES.
b. LINES CONNECTING BLOCKS HAVE NO RELIABILITY VALUES. THE
    LINES SERVE ONLY TO GIVE ORDER AND DIRECTION TO THE DIAGRAM AND
    DO NOT REPRESENT THE WIRING CABLES AND CONNECTORS ASSOCIATED
    WITH THE ITEM. CABLING AND CONNECTORS ARE INCORPORATED INTO A
    SINGLE BLOCK OR INCLUDED AS PART OF THE BLOCK FOR AN ELEMENT OR
    FUNCTION.
c. ALL INPUTS TO THE ITEM ARE WITHIN SPECIFICATION LIMITS.
d. FAILURE OF ANY ELEMENT OR FUNCTION DENOTED BY A BLOCK IN THE
    DIAGRAM WILL CAUSE FAILURE OF THE ENTIRE ITEM, EXCEPT WHERE
    ALTERNATIVE MODES OF OPERATION MAY BE PRESENT.
e. EACH ELEMENT OR FUNCTION DENOTED BY A BLOCK IN THE DIAGRAM IS
    INDEPENDENT, WITH REGARD TO PROBABILITY OF FAILURE, FROM ALL
    OTHER BLOCKS.

THE ASSUMPTION THAT ALL SOFTWARE IS COMPLETELY RELIABLE SHALL BE
STATED IN INSTANCES WHERE SOFTWARE RELIABILITY IS NOT INCORPORATED IN
THE ITEM RELIABILITY PREDICTION.

THE ASSUMPTION THAT ALL HUMAN ELEMENTS ARE COMPLETELY RELIABLE AND
THAT NO INTERFACE PROBLEMS OCCUR BETWEEN HUMAN ELEMENTS AND THE ITEM
SHALL BE STATED IN INSTANCES WHERE HUMAN RELIABILITY IS NOT INCORPORATED
IN THE ITEM RELIABILITY PREDICTION.

Name	Label	Description
301.2.4.1.1A1B5C2	ASSEMBLE RELIABLTY BLOCK DIAGRAM	ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS

PURPOSE OF PROCESS: ASSEMBLE THE ITEM'S RELIABILITY BLOCK DIAGRAM NECESSARY FOR COMPLETION OF THE SYSTEM DEFINITION AND THE FMEA. RELIABILITY BLOCK DIAGRAMS SHALL SHOW INTERDEPENDENCIES AMONG ALL ELEMENTS (SUBSYSTEMS, EQUIPMENTS, ETC.) OR FUNCTIONAL GROUPS FOR EACH SUCCESSFUL SERVICE USE EVENT. THE PURPOSE OF THE RELIABILITY BLOCK DIAGRAM IS TO SHOW, BY CONCISE VISUAL SHORTHAND, THE VARIOUS SERIES-PARALLEL BLOCK COMBINATIONS (PATHS) REQUIRED FOR ITEM USE SUCCESS. A COMPLETE UNDERSTANDING OF THE ITEM'S MISSION DEFINITION AND SERVICE USE PROFILE IS REQUIRED TO PRODUCE THE RELIABILITY DIAGRAM.

EACH RELIABILITY BLOCK DIAGRAM SHALL HAVE A TITLE, INCLUDING IDENTIFICATION OF THE ITEM, THE MISSION IDENTIFICATION OR PORTION OF THE SERVICE USE PROFILE ADDRESSED, AND A DESCRIPTION OF THE MODE OF OPERATION FOR WHICH THE PREDICTION IS TO BE PERFORMED. THE SAME IDENTIFICATION CODE USED IN THE FUNCTIONAL BLOCK DIAGRAM SHALL BE USED HERE.

BLOCKS IN THE DIAGRAM SHALL FOLLOW A LOGICAL ORDER RELATING THE SEQUENCE OF EVENTS DURING THE PRESCRIBED OPERATION OF THE ITEM.

THE RELIABILITY BLOCK DIAGRAM SHALL BE DRAWN SO THAT EACH ELEMENT OR FUNCTION EMPLOYED IN THE ITEM CAN BE IDENTIFIED. EACH BLOCK OF THE RELIABILITY BLOCK DIAGRAM SHALL REPRESENT ONE ELEMENT OR FUNCTION EMPLOYED. ALL BLOCKS OF THE RELIABILITY BLOCK DIAGRAM SHALL BE CONFIGURED IN SERIES, PARALLEL, STANDBY, OR COMBINATIONS THEREOF AS APPROPRIATE.

EACH BLOCK OF THE RELIABILITY BLOCK DIAGRAM SHALL BE IDENTIFIED. DIAGRAMS CONTAINING FEW BLOCKS MAY HAVE THE FULL IDENTIFICATION WRITTEN IN THE BLOCK. DIAGRAMS CONTAINING MANY BLOCKS SHALL USE A CONSISTENT LOGICAL CODE IDENTIFICATION WRITTEN FOR EACH BLOCK (THE SAME CODE AS USED IN THE FUNCTIONAL BLOCK DIAGRAM). THE CODING SYSTEM SHALL BE BASED UPON THE WORK BREAKDOWN STRUCTURE OF MIL-STD-881. IT MAY USE WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR OTHER SIMILAR UNIFORM IDENTIFICATION SYSTEM TO INSURE UNAMBIGUOUS TRACEABILITY OF THE RELIABILITY BLOCK TO ITS HARDWARE (OR FUNCTIONAL) EQUIVALENT AS DEFINED IN PROGRAM DOCUMENTATION. THE CODE SHALL BE IDENTIFIED IN A SEPARATE LISTING.

HARDWARE OR FUNCTIONAL ELEMENTS OF THE ITEM NOT INCLUDED IN THE RELIABILITY MODEL SHALL BE IDENTIFIED IN A SEPARATE LISTING UTILIZING THE EMPLOYED CODING SYSTEM. RATIONALE FOR EXCLUSION OF ANY ELEMENT FROM THE RELIABILITY MODEL SHALL BE PROVIDED.
SOURCE OF PROCESS: MIL-STD-756B

| 301.2.4.1.1A1B5C3 | DETERMINE RELIABLTY VARIABLE | ACRONYMS: |

PURPOSE OF PROCESS: RELIABILITY VARIABLES SHALL BE DETERMINED FOR EACH BLOCK AND PRESENTED SUCH THAT THE ASSOCIATION BETWEEN EACH BLOCK AND ITS VARIABLE IS APPARENT. THE RELIABILITY VARIABLE IS A NUMBER (TIME, CYCLES, EVENTS, ETC.) USED TO DESCRIBE THE DURATION OF OPERATION REQUIRED BY EACH BLOCK TO PERFORM ITS STATED FUNCTION. THIS VARIABLE SHALL BE USED IN CALCULATING THE RELIABILITY OF THE BLOCK.
SOURCE OF PROCESS: MIL-STD-756B

B-66

Name	Label	Description
BLCK/DIA	BLOCK DIAGRAMS	ACRONYMS: FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: ALLOW THE ANALYST ACCESS TO THE FUNCTIONAL AND
RELIABILITY DIAGRAMS. THESE WILL BE INCLUDED IN THE SYSTEM DEFINITION
AND ARE NECESSARY TO DEVELOP THE FMEA. A FUNCTIONAL BLOCK DIAGRAM
ILLUSTRATES THE OPERATION AND INTERRELATIONSHIPS BETWEEN FUNCTIONAL
ENTITIES OF A SYSTEM AS DEFINED IN ENGINEERING DATA AND SCHEMATICS. IT
PROVIDES A FUNCTIONAL FLOW SEQUENCE FOR THE SYSTEM AND EACH INDENTURE
LEVEL OF ANALYSIS. THE RELIABILITY BLOCK DIAGRAM DEFINES THE SERIES
DEPENDENCE OR INDEPENDENCE OF ALL FUNCTIONS OF A SYSTEM OR FUNCTIONAL
GROUP FOR EACH LIFE-CYCLE EVENT. IT PROVIDES IDENTIFICATION OF FUNCTION
INTERDEPENDENCIES FOR THE SYSTEM.
SOURCE OF DATA: FUNCTIONAL BLOCK DIAGRAM - PROCESS 301.2.4.1.1A1B3
                                   (CREATE FUNCTIONAL BLOCK DIAGRAM)
                 RELIABILITY BLOCK DIAGRAM - PROCESS 301.2.4.1.1A1B5
                                   (CREATE RELIABILITY BLOCK DIAGRAMS)

Name	Label	Description
CON/SUC/ASS/DTA	CONDITNS OF SUCCESS AND ASSMPTN DTA	ACRONYMS:

PURPOSE OF DATA: INFORM THE ANALYST ABOUT CONDITIONS INFLUENCING THE
CHOICE OF PRESENTATION, STATEMENT OF SUCCESS, AND TECHNICAL AND GENERAL
BLOCK DIAGRAM ASSUMPTIONS.
SOURCE OF DATA: PROCESS 301.2.4.1.1A1B5C1 (DETERMINE CONDITIONS,
                SUCCESS AND ASSUMPTIONS)

Name	Label	Description
ENV/PROF	ENVIRONMNTL PROFILES	ACRONYMS:

PURPOSE OF DATA: INFORM THE ANALYST ABOUT ENVIRONMENTAL PROFILES TO
WHICH THE SYSTEM UNDER CONSIDERATION WILL BE SUBJECTED. INTENDED USE,
THROUGH TIME, OF THE SYSTEM AND ITS EQUIPMENTS SHALL BE DEVELOPED FROM
THE MISSION TIME STATEMENTS FOR EACH ENVIRONMENTAL PROFILE AND SHALL BE
INCLUDED IN THIS DATA FLOW.
SOURCE OF DATA: PROCESS 301.2.4.1.1A1B4 (IDENTIFY ENVIRONMENTAL
                PROFILES)

Name	Label	Description
FAIL/CRIT	FAILURE CRITERIA	ACRONYMS:

PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE
OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR
EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT
WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY.
SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND
                ASSUMPTIONS)

Name	Label	Description
FUN/BLK/DIA	FUNCTIONAL BLOCK DIAGRAM	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: ALLOW THE ANALYST ACCESS TO THE FUNCTIONAL BLOCK DIAGRAMS NEEDED TO COMPLETE THE FMEA. THE FUNCTIONAL BLOCK DIAGRAM ILLUSTRATES THE OPERATION AND INTERRELATIONSHIPS BETWEEN FUNCTIONAL ENTITIES OF A SYSTEM AS DEFINED IN ENGINEERING DATA AND SCHEMATICS. IT PROVIDES A FUNCTIONAL FLOW SEQUENCE FOR THE SYSTEM AND EACH INDENTURE LEVEL OF ANALYSIS.

SOURCE OF DATA: PROCESS 301.2.4.1.1A1B3 (CREATE FUNCTIONAL BLOCK DIAGRAMS)

Name	Label	Description
MIL-STD-756	MIL-STD-756	ACRONYMS:

PURPOSE OF DATA: PROVIDE THE ANALYST WITH COMMON GROUND RULES FOR TECHNIQUES AND DATA SOURCES USED TO FORMULATE RELIABILITY MODELS AND PREDICTIONS SO THEY MAY BE UNIFORMLY APPLIED AND INTERPRETED. THIS STANDARD ("RELIABILITY MODELING AND PREDICTION") ESTABLISHES PROCEDURES AND GROUND RULES INTENDED TO ACHIEVE THIS PURPOSE.

SOURCE OF DATA: POLICY FILES

Name	Label	Description
MIL-STD-881	MIL-STD-881 WORK BREAKDN STRUCTURES FOR DEFENSE MATER'L ITEM	ACRONYMS:

PURPOSE OF DATA: AID THE ANALYST BY PROVIDING GUIDANCE IN PREPARING A STANDARD WORK BREAKDOWN STRUCTURE. DATA IS IN THE FORM OF A MILITARY STANDARD PAMPHLET, "WORK BREAKDOWN STRUCTURES FOR DEFENSE MATERIEL ITEMS."

THE MIL-STD IDENTIFIES ARMY MATERIEL BY GENERAL CLASSIFICATIONS:

1. AIRCRAFT SYSTEM
2. ELECTRONICS SYSTEM
3. MISSILE SYSTEM
4. ORDNANCE SYSTEM
5. SHIP SYSTEM
6. SPACE SYSTEM
7. SURFACE VEHICLE SYSTEM

EACH OF THE MAJOR CATEGORIES (LEVEL 1 ITEMS) IS FURTHER STRATIFIED INTO MAJOR SYSTEMS (LEVEL 2 ITEMS). AS AN EXAMPLE, AIRCRAFT SYSTEMS ARE BROKEN DOWN INTO THE FOLLOWING MAJOR SYSTEMS:

1. AIR VEHICLE
2. TRAINING
3. PECULIAR SUPPORT EQUIPMENT
4. SYSTEM TEST AND EVALUATION
5. SYSTEM/PROJECT MANAGEMENT
6. DATA
7. OPERATIONAL/SITE ACTIVATION
8. COMMON SUPPORT EQUIPMENT
9. INDUSTRIAL FACILITIES
10. INITIAL SPARES AND INITIAL REPAIR PARTS

LEVEL 3 ITEMS CONTAIN THE LAST INDENTURE FOR WHICH GUIDANCE IS PROVIDED. THIS LEVEL ADDRESSES SUCH ITEMS AS AIRFRAME, PROPULSION UNITS, COMMUNICATIONS, ETC. HOWEVER, GUIDANCE IN THE MIL-STD STATES THAT ..."THE PROJECT SUMMARY WBS WILL BE TAILORED TO THE PROJECT OBJECTIVES.."

SOURCE OF DATA: POLICY FILES

Name	Label	Description
REL/BLK/DIA	RELIABILITY BLOCK DIAGRAM	ACRONYMS: PURPOSE OF DATA: SHOW THE ANALYST INTERDEPENDENCIES AMONG ALL ELEMENTS (SUBSYSTEMS, EQUIPMENTS, ETC.) OR FUNCTIONAL GROUPS OF THE ITEM FOR SUCCESS IN EACH SERVICE USE EVENT. THE PURPOSE OF THE RELIABILITY BLOCK DIAGRAM IS TO SHOW, BY CONCISE VISUAL SHORTHAND, THE VARIOUS SERIES-PARALLEL BLOCK COMBINATIONS (PATHS) THAT RESULT IN ITEM SUCCESS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1B5C2 (ASSEMBLE RELIABILITY BLOCK DIAGRAM)
REL/DATA	RELIABILITY DATA	ACRONYM: PURPOSE OF DATA: PROVIDE THE ANALYST WITH APPROPRIATE RELIABILITY DATA. DETERMINATION OF THE POSSIBLE AND PROBABLE FAILURE MODES REQUIRES AN ANALYSIS OF RELIABILITY DATA ON THE ITEM SELECTED TO PERFORM EACH SYSTEM'S INTERNAL FUNCTIONS. IT IS ALWAYS DESIRABLE TO USE DATA RESULTING FROM RELIABILITY TESTS ON THE SPECIFIC EQUIPMENT TO BE USED, PERFORMED UNDER REALISTIC CONDITIONS. WHEN SUCH TESTS ARE NOT AVAILABLE, RELIABILITY DATA FROM MIL-HDBK-217 OR FROM OPERATIONAL EXPERIENCE AND TESTS PERFORMED UNDER SIMILAR USE CONDITIONS ON ITEMS SIMILAR TO THOSE IN THE SYSTEM SHOULD BE USED. SOURCE OF DATA: HISTORICAL FILES OR TEST RESULTS
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION. INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED. SOURCE OF DATA: CONTRACT REQUIREMENTS

Name	Label	Description
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY): 1. RELIABILITY DATA 2. FAILURE RATE DATA 3. SPARES AND SPARE FUNDING DATA

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM.

THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
                AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
                SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
                REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
                SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

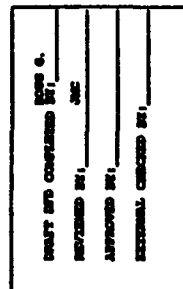| Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA

APPENDIX B
SUBTASK 301.2.4.1.1A4B

Name	Label	Description
301.2.4.1.1A4B1	DETERMINE LOCAL FAILURE EFFECTS	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: IDENTIFY AND EVALUATE THE FAILURE EFFECTS OF EACH ASSUMED FAILURE MODE ON ITEM OPERATION, FUNCTION, OR STATUS. LOCAL EFFECTS CONCENTRATE SPECIFICALLY ON THE IMPACT AN ASSUMED FAILURE MODE HAS ON THE OPERATION AND FUNCTION OF THE ITEM IN THE INDENTURE LEVEL UNDER CONSIDERATION. THE CONSEQUENCES OF EACH POSTULATED FAILURE AFFECTING THE ITEM SHALL BE DESCRIBED, ALONG WITH ANY RESULTING SECOND-ORDER EFFECTS. THE PURPOSE OF DEFINING LOCAL EFFECTS IS TO PROVIDE A BASIS FOR EVALUATING COMPENSATING PROVISIONS AND RECOMMENDING CORRECTIVE ACTIONS. IT IS POSSIBLE FOR THE "LOCAL" EFFECT TO BE THE FAILURE MODE ITSELF.

ONCE DETERMINED, DATA SHALL BE WRITTEN TO THE APPROPRIATE FMEA WORKSHEET COLUMN. UPON COMPLETION, THE LOCAL FAILURE EFFECTS SHALL BE WRITTEN TO A BUFFER PROCESS (301.2.4.1.1A4B3), WHERE IT IS ASSEMBLED WITH OTHER FAILURE EFFECTS DATA, AND LATER SENT TO THE APPROPRIATE LSAR (RECORD B1, CARD B14, BLOCK 6; ALSO WRITTEN IS THE CORRESPONDING IDENTIFICATION NUMBER [LCN] TO RECORD B1, CARD B14, BLOCK 1).

SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description
301.2.4.1.1A4B2	DETERMINE NEXT HGHR LEVEL FAIL EFFS	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DETERMINE THE NEXT HIGHER LEVEL FAILURE EFFECTS ON THE SYSTEM. NEXT HIGHER LEVEL EFFECTS CONCENTRATE ON THE IMPACT AN ASSUMED FAILURE HAS ON THE OPERATION AND FUNCTION OF THE ITEMS IN THE NEXT HIGHER INDENTURE LEVEL ABOVE THE INDENTURE LEVEL UNDER CONSIDERATION. CONSEQUENCES OF EACH POSTULATED FAILURE AFFECTING THE NEXT HIGHER INDENTURE LEVEL SHALL BE DESCRIBED.

ONCE DETERMINED, DATA SHALL BE WRITTEN TO THE APPROPRIATE FMEA WORKSHEET COLUMN. UPON COMPLETION, THE NEXT HIGHER LEVEL FAILURE EFFECTS SHALL BE WRITTEN TO A BUFFER PROCESS (301.2.4.1.1A4B3), WHERE IT IS ASSEMBLED WITH OTHER FAILURE EFFECTS DATA, TO BE SENT LATER TO THE APPROPRIATE LSAR (RECORD B1, CARD B14, BLOCK 6; ALSO WRITTEN IS THE CORRESPONDING IDENTIFICATION NUMBER [LCN] TO RECORD B1, CARD B14, BLOCK 1).

SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description

301.2.4.1.1A4B3	DETERMINE END FAILURE EFFECTS	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
		            LCN - LOGISTIC CONTROL NUMBER
		
		PURPOSE OF PROCESS: DETERMINE THE END FAILURE EFFECTS OF THE SYSTEM BY EVALUATION AND DEFINITION OF THE TOTAL EFFECT AN ASSUMED FAILURE HAS ON THE OPERATION, FUNCTION, OR STATUS OF THE UPPERMOST SYSTEM. THE END EFFECT DESCRIBED MAY BE THE RESULT OF A DOUBLE FAILURE. FOR EXAMPLE, FAILURE OF A SAFETY DEVICE MAY RESULT IN A CATASTROPHIC END EFFECT ONLY IF THE PRIME FUNCTION GOES BEYOND LIMIT FOR WHICH THE SAFETY DEVICE IS SET AND THE SAFETY DEVICE FAILS. END EFFECTS RESULTING FROM A DOUBLE FAILURE SHALL BE INDICATED ON THE FMEA WORKSHEET.
		    ONCE DETERMINED, DATA SHALL BE WRITTEN TO THE APPROPRIATE FMEA WORKSHEET COLUMN. UPON COMPLETION, THE FAILURE EFFECTS SHALL BE ASSEMBLED WITH OTHER FAILURE EFFECTS DATA TO BE WRITTEN TO THE APPROPRIATE LSAR (RECORD B1, CARD B14, BLOCK 6; ALSO WRITTEN IS THE CORRESPONDING IDENTIFICATION NUMBER [LCN] TO RECORD B1, CARD B14, BLOCK 1).
		SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description

FAIL/EFF   **FAILURE**   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                     EFFECTS   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                                         LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: WRITE TO THE APPROPRIATE LSAR RECORD (RECORD B1, CARD B14, BLOCK 6), THE FAILURE EFFECTS DATA DETERMINED IN THE FMEA ANALYSIS. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME CARD.

SOURCE OF DATA: PROCESS 301.2.4.1.1A4 (DETERMINE FAILURE EFFECTS)

FMEA/WKST   **FMEA**   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                     WORKSHEET   LCN - LOGISTIC CONTROL NUMBER
                     DATA

PURPOSE OF DATA: PROVIDE THE ANALYST WITH AN UP-TO-DATE LISTING OF THE FMEA DATA ENTERED ONTO THE FMEA WORKSHEET. ONCE ENTERED, DATA MAY BE UPDATED OR USED FOR FURTHER ANALYSIS WITHIN THE FMEA TASK. DATA WILL CONTINUE TO BE ENTERED UNTIL EACH TASK IS COMPLETE, AND MAY CONTAIN ANY OR ALL OF THE FOLLOWING:

      A. IDENTIFICATION NUMBER (LCN)
      B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
      C. FUNCTION
      D. FAILURE MODES AND CAUSES
      E. MISSION PHASE/OPERATIONAL MODE
      F. FAILURE EFFECTS
            a. LOCAL EFFECTS
            b. NEXT HIGHER LEVEL
            c. END EFFECTS
      G. FAILURE DETECTION METHOD
      H. COMPENSATING PROVISIONS
      I. SEVERITY CLASS
      J. REMARKS

      THE DATA FLOWS THROUGHOUT THE PROCESSES WITHIN THE FMEA TASK.

SOURCE OF DATA: PROCESSES WITHIN THE FMEA ANALYSIS

ID#   **IDENTIFICTN**   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
             NUMBER   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                                       LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                                       LCN   - LOGISTIC CONTROL NUMBER
                                       ALC   - ALTERNATE LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/ FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSER THE IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA, TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN (MIL-STD-1388-2).

SOURCE OF DATA: CODING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL ATTRIBUTES) IN THE FMEA

Name	Label	Description

LOC/LVL/EFF   LOCAL ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
         LEVEL   LCN - LOGISTIC CONTROL NUMBER
         FAILURE EFF

              PURPOSE OF DATA: WRITE THE LOCAL LEVEL EFFECTS INTO A BUFFER PROCESS TO
BE TRANSFERRED LATER TO THE APPROPRIATE LSAR. ONCE CONSOLIDATED, LOCAL
EFFECTS WILL BE TRANSFERRED, ALONG WITH THE NEXT HIGHER LEVEL AND END
EFFECTS, TO LSAR RECORD B1, CARD B14, BLOCK 6. THIS DATA SHALL BE
WRITTEN ALONGSIDE ITS APPROPRIATE IDENTIFICATION NUMBER (LCN) LOCATED IN
BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.1A4B1 (DETERMINE LOCAL FAILURE
            EFFECTS)

NXT/HGHR/LVL/EFF NEXT HIGHER ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
         LEVEL -   LCN - LOGISTIC CONTROL NUMBER
         EFFECTS OF A

         FAILURE PURPOSE OF DATA: WRITE THE NEXT HIGHER LEVEL FAILURE EFFECTS TO A BUFFER
PROCESS WAITING TO BE SHIPPED TO THE APPROPRIATE LSAR. UPON
CONSOLIDATING NEXT HIGHER LEVEL EFFECTS ALONG WITH LOCAL AND END
EFFECTS, THE FAILURE EFFECTS DATA SHALL BE SHIPPED TO LSAR RECORD B1,
CARD B14, BLOCK 6. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE
IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.1A4B2 (DETERMINE NEXT HIGHER LEVEL
            FAILURE EFFECTS)

SYS/DEF   SYSTEM ACRONYM:
         DEFINITION

              PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM
INVESTIGATED.
   SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH
MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS
OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE
SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL
MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS,
OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART
FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES.
ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE
SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL
ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS.
SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
B1/14/1	REC B1 CARD B14 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON AN LSAR CARD (RECORD B1, CARD B14, BLOCK 1). DATA WRITTEN TO THIS LOCATION IS THE IDENTIFICATION NUMBER (LOGISTIC CONTROL NUMBER) FOR THE RESPECTIVE DAMAGE/FAILURE EFFECTS DETERMINED IN THE FMECA.
B1/14/6	REC B1 CARD B14 BLOCK 6	THIS ENTITY REFERS TO AN LSAR LOCATION (RECORD B1, CARD B14, BLOCK 6). THIS RECORD SHALL CONTAIN THE DAMAGE/FAILURE EFFECTS DATA DETERMINED IN THE FMECA.

APPENDIX B
SUBTASK 301.2.4.1.1A9B

301.2.4.1.1A7

FMEA
WORKSHEE

DETERM
FAILU
MODE
301.2.4.1.1A9B

FMEA
WORKSHEE

DETERM
FAILU
MODE
301.2.4.1.1A9B

FMEA
WORKSHEE

DETERM
MISS:
PHAS
301.2.4.1.1A9B

FAILURE
MODE

FAILURE
MODE

MISSIO
PHASE

B1/13/3
REC B1
CARD B

B1/13/5
REC B1
CARD B

B1/13/7
REC B1
CARD B

FAILURE
MODE

FAILUR
MODE

MISSIO
PHASE

PROC/REQ
PROCUR
ACTIVI
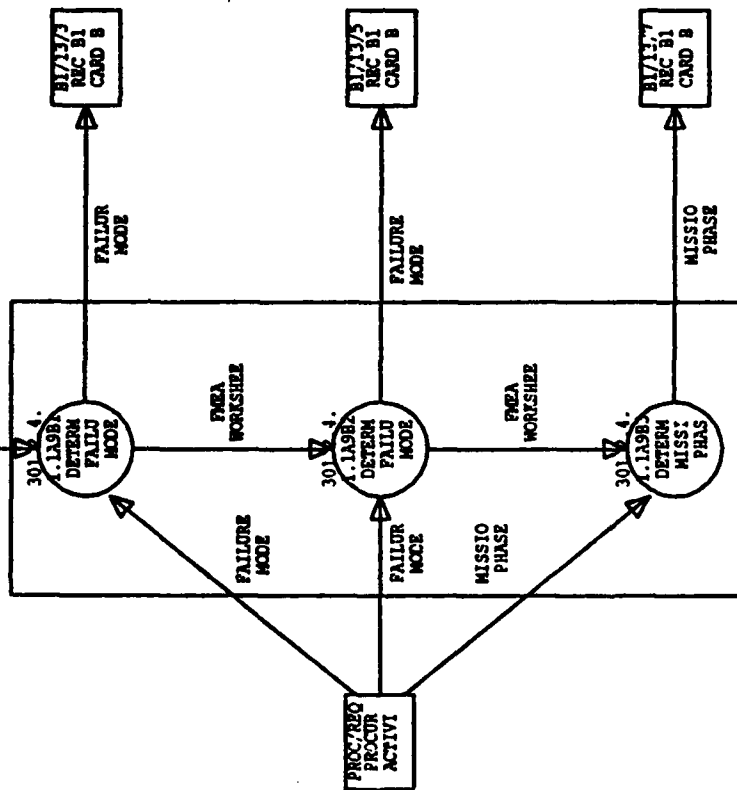
DRAFT DFD COMPLETED BY
DODG G.
JMC

REVIEWED BY: _____

APPROVED BY: _____

301.2.4.1.1A9B
Created by: DODG
Revised by: BARB
Date changed: 10-APR-88

B-80

Name	Label	Description
301.2.4.1.1A9B1	DETERMINE FAILURE MODE INDICATOR VALUE	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF PROCESS: UTILIZE THE FAILURE MODES DETERMINED IN PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES AND PHASES) TO ESTABLISH A FAILURE MODE INDICATOR CODE FOR EACH INDIVIDUAL ITEM'S SPECIFIC FAILURE MODE. IT SHALL BE A TWO-DIGIT, ALPHABETIC CODE RANGING FROM AA TO ZZ. EACH ITEM'S FAILURE MODE SHALL HAVE A UNIQUE CODE. THIS NUMBER SHALL BE USED FOR IDENTIFICATION IN THE LSAR. SOURCE OF PROCESS: MIL-STD-1388-2A
301.2.4.1.1A9B2	DETERMINE FAILURE MODE CODE	ACRONYMS: PURPOSE OF PROCESS: WHEN REQUIRED, THE FAILURE MODE CODE SHALL BE DETERMINED UTILIZING CODE SOURCE AS IDENTIFIED EITHER IN TM 38-750 (MAY 78), OR BY THE REQUIRING AUTHORITY. THE CODE IS THREE DIGITS AND MAY BE ALPHABETIC, NUMERIC, SPECIAL, OR ANY COMBINATION THEREOF. SOURCE OF PROCESS: MIL-STD-1388-2A, TM38-750
301.2.4.1.1A9B3	DETERMINE MISSION PHASE CODE VALUE	ACRONYMS: MPC - MISSION PHASE CODE PURPOSE OF PROCESS: FOR EACH IDENTIFIED MISSION PHASE/OPERATIONAL MODE, A ONE DIGIT ALPHA-NUMERIC CODE IS IDENTIFIED. THE CODE SHALL UNIQUELY IDENTIFY ITS TARGETTED MISSION PHASE/OPERATIONAL MODE. MPCs ARE A-Z, AND 0-9. SOURCE OF PROCESS: MIL-STD-1388-2A

B-81

Name	Label	Description
FMC	FAILURE MODE CODE VALUE	ACRONUMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: PROVIDE THE LSAR WITH EACH IDENTIFIED ITEM'S FAILURE MODE CODE. SOURCE OF DATA: PROCESS 301.2.4.1.1A9B2 (DETERMINE FAILURE MODE CODE VALUE)
FMC/RULES	FAILURE MODE CODE RULES	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH RULES RELATING TO PROCURING ACTIVITY REQUIREMENTS FOR DETERMINING FAILURE MODE CODES. IF NOT IDENTIFIED, THE FAILURE MODE CODE IS NOT REQUIRED. SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS

FMEA/WKST	FMEA WORKSHEET DATA	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
		            LCN - LOGISTIC CONTROL NUMBER
		
		PURPOSE OF DATA: PROVIDE THE ANALYST WITH AN UP-TO-DATE LISTING OF THE FMEA DATA ENTERED ONTO THE FMEA WORKSHEET. ONCE ENTERED, DATA MAY BE UPDATED OR USED FOR FURTHER ANALYSIS WITHIN THE FMEA TASK. DATA WILL CONTINUE TO BE ENTERED UNTIL EACH TASK IS COMPLETE, AND MAY CONTAIN ANY OR ALL OF THE FOLLOWING:
		    A. IDENTIFICATION NUMBER (LCN)
		    B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
		    C. FUNCTION
		    D. FAILURE MODES AND CAUSES
		    E. MISSION PHASE/OPERATIONAL MODE
		    F. FAILURE EFFECTS
		        a. LOCAL EFFECTS
		        b. NEXT HIGHER LEVEL
		        c. END EFFECTS
		    G. FAILURE DETECTION METHOD
		    H. COMPENSATING PROVISIONS
		    I. SEVERITY CLASS
		    J. REMARKS
		    THE DATA FLOWS THROUGHOUT THE PROCESSES WITHIN THE FMEA TASK.
		SOURCE OF DATA: PROCESSES WITHIN THE FMEA ANALYSIS

FMI	FAILURE MODE INDICATOR VALUE	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD ADP - AUTOMATED DATA PROCESSING PURPOSE OF DATA: IDENTIFY THE FAILURE MODE INDICATOR VALUE MANDATORY FOR LSAR ADP PROCESSING TO ITS PARTICULAR LSAR LOCATION. SOURCE OF DATA: PROCESS 301.2.4.1.1A9B1 (DETERMINE FAILURE MODE INDICATOR VALUE)
FMI/RULES	FAILURE MODE INDICATOR RULES	ACRONYMS: PURPOSE OF DATA: SUPPLY THE ANALYST WITH RULES FOR PROVIDING FAILURE MODE INDICATOR VALUES AS ESTABLISHED BY THE PROCURING ACTIVITY. IF NO RULES ARE PROVIDED, THE ANALYST MUST PROVIDE HIS OWN. SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS

Name	Label	Description
MPC	MISSION PHASE CODE VALUE	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		PURPOSE OF DATA: PROVIDE THE LSAR WITH IMPORTANT MISSION PHASE CODE DATA NECESSARY FOR THE AUTOMATED LSAR.
		SOURCE OF DATA: PROCESS 301.2.4.1.1A9B3
MPC/RULES	MISSION PHASE CODE RULES	ACRONYMS:
		PURPOSE OF DATA: PROVIDE THE ANALYST WITH RULES REQUIRED BY THE PROCURING ACTIVITY FOR THE DEVELOPMENT OF MISSION PHASE CODES. IF NONE ARE IDENTIFIED, THE ANALYST WILL SUPPLY HIS OWN RULES.
		SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS

Name	Label	Description
B1/13/3	REC B1 CARD B13 BLOCK 3	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD FMEA - FAILURE MODE AND EFFECTS ANALYSIS THIS ENTITY PUTS THE FAILURE MODE INDICATOR DETERMINED IN THE FMEA INTO LSAR RECORD B1, CARD B13, BLOCK 3.
B1/13/5	REC B1 CARD B13 BLOCK 5	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY TRANSFERS DATA RECIEVED TO ITS APPROPRIATE LSAR LOCATION. THE LOCATION FOR THIS RECORD IS BLOCK 5 OF RECORD B1, CARD B13. THE DATA RECIEVED IS THE FAILURE MODE CODE.
B1/13/7	REC B1 CARD B13 BLOCK 7	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD THIS ENTITY TAKES THE DATA (MISSION PHASE CODE VALUE) AND TRANSFERS IT TO ITS APPROPRIATE LSAR LOCATION. THE LSAR LOCATION IS RECORD B1, CARD B13, BLOCK 7.
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.

APPENDIX B
SUBTASK 301.2.4.1.2A

Name	Label	Description

301.2.4.1.2A1   INITIATE   ACRONYMS: FMEA - FAILURE MODES AND EFFECTS ANALYSIS
                  CRITICLTY   CA   - CRITICALITY ANALYSIS
                  WORKSHEET   LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: WRITE THE APPROPRIATE DATA FROM THE FMEA WORKSHEET
(FMEA DATA) TO THE CA WORKSHEET. THE FMEA WORKSHEET DATA REQUIRED FOR
THE CA WORKSHEET IS AS FOLLOWS:

     A. IDENTIFICATION NUMBER (LCN)
     B. ITEM/FUNCTIONAL IDENTIFICATION
     C. FUNCTION
     D. FAILURE MODES AND CAUSES
     E. MISSION PHASE/OPERATIONAL MODE
     F. SEVERITY CLASSIFICATION

THIS DATA IS WRITTEN TO THE CA WORKSHEET AND SENT TO THE NEXT
PROCESS.
SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.2A2   DETERMINE   ACRONYMS: CA - CRITICALITY ANALYSIS
                  ANALYSIS   LCN - LOGISTIC CONTROL NUMBER
                  APPROACH

PURPOSE OF PROCESS: DETERMINE, FOR EACH INDIVIDUAL PART, IF THE FAILURE
RATE DATA SOURCE SUPPORTS A QUALITATIVE OR QUANTITATIVE ANALYSIS. IF A
QUALITATIVE PATH IS CHOSEN, THEN THE CA WORKSHEET DATA FLOWS TO PROCESS
301.2.4.1.2A3 (PERFORM QUALITATIVE CA). IF A QAUNTITATIVE PATH IS USED,
THE APPROVED FAILURE RATE DATA SOURCE MUST BE WRITTEN TO BOTH THE CA
WORKSHEET AND LSAR RECORD B2, CARD B16, BLOCK 5, NEXT TO THE APPROPRIATE
IDENTIFICATION NUMBER (LCN), WHICH IS WRITTEN TO LSAR RECORD B2, CARD
B16, BLOCK 1. ONCE THE DATA IS WRITTEN, THE CA WORKSHEET CAN FLOW TO
PROCESS 301.2.4.1.2A4 (PERFORM QUANTITATIVE CA).

    THE QUANTITATIVE PATH IS PREFERRED BECAUSE IT PROVIDES A MORE IN-
DEPTH VIEW OF THE SYSTEM BEING ANALYZED. HOWEVER, THE QUALITATIVE PATH
MAY BE USED IF NECESSARY DATA IS UNAVAILABLE.
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description

301.2.4.1.2A3   PERFORM   ACRONYMS: CA   - CRITICALITY ANALYSIS
                   QUALITATV   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                   CRITICLTY   LCN - LOGISTIC CONTROL NUMBER
                   ANALYSIS

PURPOSE OF PROCESS: THE ANALYST SHALL DECIDE THE FAILURE PROBABILITY
RATINGS OF INVESTIGATED PARTS. FAILURE MODES IDENTIFIED ON THE CA
WORKSHEET ARE ASSESSED IN TERMS OF PROBABILITY OF OCCURRENCE WHEN
SPECIFIC PARTS CONFIGURATION OR FAILURE RATE DATA ARE NOT AVAILABLE.
    INDIVIDUAL FAILURE MODE PROBABILITIES OF OCCURRENCE SHOULD BE
GROUPED INTO DISTINCT, LOGICALLY DEFINED LEVELS, WHICH ESTABLISH THE
QUALITATIVE FAILURE PROBABILITY LEVEL FOR ENTRY INTO THE APPROPRIATE CA
WORKSHEET BLOCK. PROBABILITY OF OCCURRENCE LEVELS ARE DEFINED AS
FOLLOWS:
        LEVEL A - FREQUENT. A HIGH PROBABILITY OF OCCURRENCE DURING THE
          ITEM OPERATING TIME INTERVAL. HIGH PROBABILITY MAY BE DEFINED
          AS A SINGLE FAILURE MODE PROBABILITY GREATER THAN 0.20 OF THE
          OVERALL PROBABILITY OF FAILURE DURING THE ITEM OPERATING TIME
          INTERVAL.
        LEVEL B - REASONABLY PROBABLE. A MODERATE PROBABILITY OF
          OCCURRENCE DURING THE ITEM OPERATING TIME INTERVAL. PROBABLE
          MAY BE DEFINED AS A SINGLE FAILURE MODE PROBABILITY OF
          OCCURRENCE WHICH IS MORE THAN 0.10 BUT LESS THAN 0.20 OF THE
          OVERALL PROBABILITY OF FAILURE DURING THE ITEM OPERATING TIME.
        LEVEL C - OCCASIONAL. AN OCCASIONAL PROBABILITY OF OCCURRENCE
          DURING ITEM OPERATING TIME INTERVAL. OCCASIONAL PROBABILITY MAY
          BE DEFINED AS A SINGLE FAILURE MODE PROBABILITY OF OCCURRENCE
          WHICH IS GREATER THAN 0.01 BUT LESS THAN 0.10 OF THE OVERALL
          PROBABILITY OF FAILURE DURING THE ITEM OPERATING TIME.
        LEVEL D - REMOTE. AN UNLIKELY PROBABILITY OF OCCURRENCE DURING
          ITEM OPERATING TIME INTERVAL. REMOTE PROBABILLITY MAY BE
          DEFINED AS A SINGLE FAILURE MODE PROBABILITY OF OCCURRENCE WHICH
          IS MORE THAN 0.001 BUT LESS THAN 0.01 OF THE OVERALL PROBABILITY
          OF FAILURE DURING THE ITEM OPERATING TIME.
        LEVEL E - EXTREMELY UNLIKELY. A FAILURE WHOSE PROBABILITY OF
          OCCURRENCE IS ESSENTIALLY ZERO DURING ITEM OPERATING TIME
          INTERVAL. EXTREMELY UNLIKELY MAY BE DEFINED AS A SINGLE FAIURE
          MODE PROBABILITY OF OCCURRENCE WHICH IS LESS THAN 0.001 OF THE
          OVERALL PROBABILITY OF FAILURE DURING THE ITEM OPERATING TIME.
    WHEN DETERMINED, THE ANALYST WRITES THE DATA TO BOTH THE CA
WORKSHEET AND LSAR RECORD B2, CARD 17, BLOCK 5, ALONGSIDE THE
APPROPRIATE IDENTIFICATION NUMBER (LCN), WHICH IS WRITTEN TO LSAR
RECORD B2, CARD B17, BLOCK 1.
SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

301.2.4.1.2A4	PERFORM QUANTITTV CRITICLTY ANALYSIS	ACRONYM: CA - CRITICALILTY ANALYSIS
		LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		
		PURPOSE OF PROCESS: DETERMINE AND CALCULATE VALUES REQUIRED FOR COMPLETION OF THE CA WORKSHEET. IF THE FAILURE RATE DATA SUPPORTS A QUANTITATIVE CA, THE FOLLOWING DATA MUST BE DETERMINED BY THE ANALYST IN ORDER TO COMPLETE SUCH AN ANALYSIS:
		    A. FAILURE EFFECT PROBABILITY
		    B. FAILURE MODE RATIO
		    C. PART FAILURE RATE
		    D. OPERATING TIME
		    ONCE DETERMINED, THE AFOREMENTIONED DATA LENDS ITSELF TO THE CALCULATION OF THE FOLLOWING DATA ALSO NEEDED FOR COMPLETION OF THE CA WORKSHEET:
		    E. FAILURE MODE CRITICALITY NUMBER
		    F. ITEM CRITICALITY NUMBER
		    EACH KNOWN ITEM OF DATA IS WRITTEN TO THE APPROPRIATE CA WORKSHEET COLUMN AND LSAR, NEXT TO ITS APPROPRIATE IDENTIFICATION NUMBER. ALL DETERMINED AND CALCULATED DATA IS DESCRIBED FURTHER IN THE EXPLOSION GRAPH OF THIS PROCESS (301.2.4.1.2A4B).
		SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

301.2.4.1.2A5	FINALIZE CA WKST W/APPROP REMARKS	ACRONYMS: CA - CRITICALITY ANALYSIS FMECA - FAILURE MODE, AND EFFECTS CRITICALITY ANALYSIS PURPOSE OF PROCESS: FINALIZE EACH ROW OF THE CA WORKSHEET WITH APPROPRIATE REMARKS WHICH PERTAIN TO OR CLARIFY ANY COLUMN IN THE WORKSHEET. NOTES REGARDING RECOMMENDATIONS FOR DESIGN IMPROVEMENTS SHALL BE RECORDED AND FURTHER AMPLIFIED IN THE FMECA REPORT. WHEN THE LAST ITEM HAS BEEN INVESTIGATED, THE CA WORKSHEET (WHICH SHOULD BE COMPLETE AT THIS POINT) IS SENT TO THE NEXT PROCESS (301.2.4.1.2A6), WHICH IS THE CREATION OF THE CRITICALITY MATRIX. SOURCE OF PROCESS: MIL-STD-1629A
301.2.4.1.2A6	CREATE CRITICLTY MATRIX	ACRONYMS: CA - CRITICALITY ANALYSIS FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF PROCESS: CREATE A CRITICALITY MATRIX, GIVEN THE COMPLETED CA WORKSHEET, BY INSERTING ITEM OR FAILURE MODE IDENTIFICATION NUMBERS IN MATRIX LOCATIONS REPRESENTING THE SEVERITY CLASSIFICATION CATEGORY, AND EITHER THE PROBABILITY OF THE OCCURRENCE LEVEL (QUALITATIVE CA) OR THE ITEM CRITICALITY NUMBER (QUANTITATIVE CA) FOR THE ITEM'S FAILURE MODES. THE RESULTING MATRIX DISPLAY PROVIDES A TOOL FOR ASSIGNING CORRECTIVE ACTION PRIORITIES. WHEN COMPLETED, THE MATRIX IS SENT WITH THE CA WORKSHEET TO BE INCLUDED IN THE FMECA FINAL REPORT. SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
APP/FAIL/RT/DT	APPROVED FAILURE RTE DATA SOURCE	ACRONYM: PURPOSE OF DATA: INFORM THE ANALYST OF THE FAILURE RATE DATA SOURCES APPROVED BY THE PROCURING ACTIVITY AND REQUIRED FOR THE CRITICALITY ANALYSIS, E.G., HANDBOOKS, REPORTS, TEST AND/OR OPERATIONAL DATA, OR OTHER REFERENCE MATERIAL. SOURCE OF DATA: THE PROCURING ACTIVITY
CA/DT/W/MATR	CRITICALITY ANALYSIS DATA W/MTX	ACRONYM: CA - CRITICALITY ANALYSIS FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: SEND TO THE FMECA REPORT ASSEMBLY. DATA CONTAINS THE RESULTS OF THE CA WHICH INCLUDE THE CA WORKSHEET AND THE MATRIX DEVELOPED THEREFROM. WORKSHEET SHALL CONTAIN THE FOLLOWING DATA FOR THE QUALITATIVE APPROACH:

        1. IDENTIFICATION NUMBER (LCN)
        2. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
        3. FUNCTION
        4. FAILURE MODES AND CAUSES
        5. MISSION PHASE/OPERATIONAL MODE
        6. SEVERITY CLASSIFICATION
        7. FAILURE EFFECT PROBABILITY

    FOR THE QUANTITATIVE APPROACH, THE FAILURE EFFECT PROBABILITY DATA
COLUMN IS DROPPED AND THE FOLLOWING DATA IS ADDED TO THAT DESCRIBED
ABOVE:

        7. FAILURE RATE DATA SOURCE
        8. FAILURE MODE RATIO
        9. FAIILURE RATE
       10. OPERATING TIME
       11. FAILURE MODE CRITICALITY NUMBER
       12. ITEM CRITICALITY NUMBER
       13. REMARKS

    THE MATRIX SHALL BE DRAWN AS SHOWN IN MIL-STD-1629.
  SOURCE OF DATA: PROCESS 301.2.4.1.2 (CONDUCT CRITICALITY ANALYSIS
                  (TASK 102))

Name	Label	Description

CA/W   CRITICALITY   ACRONYM: CA - CRITICALITY ANALYSIS
                ANALYSIS   LCN - LOGISTIC CONTROL NUMBER
                WORKSHEET

PURPOSE OF DATA: UPDATE THE CA WORKSHEET AS NEW DATA ARE ENTERED, THUS
PROVIDING THE ANALYST WITH A CURRENT WORKSHEET AT ALL TIMES. THIS DATA
REPRESENTS THE CURRENT CA DATA AND FLOWS FROM PROCESS TO PROCESS UNTIL
COMPLETE. DATA CONTAINED IN THE CA WORKSHEET MAY CONSIST OF THE
FOLLOWING:

     1. IDENTIFICATION NUMBER (LCN)
     2. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
     3. FUNCTION
     4. FAILURE MODES AND CAUSES
     5. MISSION PHASE/OPERATIONAL MODE
     6. SEVERITY CLASSIFICATION
     7. FAILURE RATE DATA SOURCE
        or FAILURE EFFECT PROBABILITY
     8. FAILURE MODE RATIO
     9. FAILURE RATE
    10. OPERATING TIME
    11. FAILURE MODE CRITICALITY NUMBER
    12. ITEM CRITICALITY NUMBER
    13. REMARKS

SOURCE OF DATA: THE DATA FLOWS WITHIN THE CRITICALITY ANALYSIS
                 OBTAINING DATA AS IT FLOWS. THE SOURCE, ONCE DATA
                 ENTRY IS COMPLETE, IS PROCESS 301.2.4.1.2A5 (FINALIZE
                 CA WORKSHEET W/APPROPRIATE REMARKS).

FAIL/MOD/CRIT/#   FAILURE MOD   ACRONYMS: Cm   - FAILURE MODE CRITICALITY NUMBER
                  CRITICALITY   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                  NUMBER   LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE MODE CRITICALITY NUMBER
(Cm) TO THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 12). Cm IS THE
PORTION OF THE CRITICALITY NUMBER FOR THE ITEM DUE TO ONE OF ITS FAILURE
MODES UNDER A PARTICULAR SEVERITY CLASSIFICATION. THE VALUE IS
REPRESENTED BY A DECIMAL NUMBER. THE DATA SHALL BE WRITTEN ALONGSIDE
ITS RESPECTIVE IDENTIFICATION NUMBER (LCN), LOCATED IN BLOCK 1 OF THE
SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.2A4B5 (CALCULATE FAILURE MODE
                 CRITICALITY NUMBER)

FAIL/MOD/RT   FAILURE   ACRONYMS: ALPHA - FAILURE MODE RATIO
                MODE   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                RATIO   LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: WRITE THE VALUE OF FAILURE MODE RATIO (ALPHA) TO THE
APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 9). ALPHA IS THE FRACTION
OF THE PART FAILURE RATE RELATED TO THE PARTICULAR FAILURE MODE UNDER
CONSIDERATION, AND IS REPRESENTED BY A NUMBER IN THE DECIMAL FORM. THE
DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER
(LCN), LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.2A4B2 (DETERMINE FAILURE MODE RATIO)

Name	Label	Description
FAIL/PROB	FAILURE PROBABILITY	ACRONYMS: BETA - FAILURE EFFECT PROBABILITY CA - CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE EFFECT PROBABILITY (BETA) TO THE APPROPRIATE LSAR (RECORD B1, CARD B17, BLOCK 5). BETA VALUES ARE THE CONDITIONAL PROBABILITY THAT THE FAILURE EFFECT WILL RESULT IN THE IDENTIFIED CRITICALITY CLASSIFICATION, GIVEN THAT THE FAILURE MODE OCCURS. BETA HAS A NUMERICAL VALUE RANGING BETWEEN ZERO AND ONE, INCLUSIVE, AND IS EXPRESSED IN THE FORM OF A DECIMAL. THE DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATON NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. SOURCE OF DATA: PROCESS 310.2.4.1.2A4B1 (DETERMINE FAILURE EFFECT PROBABILITY)
FAIL/RATE	FAILURE RATE	ACRONYM: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LAMBDAp - PART FAILURE RATE LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE RATE (LAMBDAp) FOR TRANSFERRAL TO THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 10). THE VALUE OF LAMBDAp IS EXPRESSED IN TERMS OF A NUMERIC DECIMAL, WHICH IS A NUMERIC RATING OF A PARTS FAILURE RATE. THE DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. SOURCE OF DATA: PROCESS 301.2.4.1.2A4B3 (DETERMINE PART FAILURE RATE)
FAIL/RT/DAT	FAILURE RTE DATA	ACRONYMS: PURPOSE OF DATA: ASSISTS THE ANALYST IN OBTAINING PERTINENT DATA REQUIRED IN THE CRITICALITY ANALYSIS. FAILURE RATE DATA USED FOR THE RELIABILITY AND MAINTAINABILITY ANALYSES REQUIRED BY CONTRACT SHALL BE THE SAME AS FOUND HERE, UNLESS OTHERWISE SPECIFIED BY THE PROCURING ACTIVITY. WHEN OTHER ANALYSES ARE NOT REQUIRED BY CONTRACT OR A FAILURE RATE DATA SOURCE HAS NOT BEEN SPECIFIED BY THE PROCURING ACTIVITY, FAILURE RATES AND FAILURE RATE ADJUSTMENT FACTORS (E.G. ENVIRONMENTAL AND QUALITY PI-FACTORS) SHALL BE DERIVED AS FOLLOWS: A. MIL-HDBK-217 SHALL BE THE PRIMARY SOURCE OF FAILURE RATE DATA FOR ELECTRONIC PARTS. BOTH THE BASE FAILURE RATE AND ALL FAILURE RATE ADJUSTMENT FACTORS SHALL BE IDENTIFIED. B. WHEN PARTS ARE SIMILAR TO THOSE LISTED IN MIL-HDBK-217, BASE FAILURE RATES SHALL BE SELECTED FROM THE HANDBOOK AND SHALL INCLUDE OTHER ADJUSTMENT FACTORS, SUCH AS SPECIAL QUALITY PI-FACTORS, AS MAY BE REQUIRED TO MODIFY THE HANDBOOK DATA FOR APPLICABILITY TO THE PARTICULAR PART. C. FAILURE RATE DATA FOR PARTS NOT COVERED BY MIL-HDBK-217 SHALL BE SELECTED FROM ALTERNATIVE DATA SOURCES. THIS DATA IS USED IN PROCESS 301.2.4.1.2A4B2 AND 301.2.4.1.2A4B3, DETERMINING FAILURE MODE RATIOS AND PART FAILURE RATES, RESPECTIVELY. THIS DATA MAY BE IN THE FORM OF HANDBOOKS, TEST AND OPERATIONAL DATA, REPORTS, OR OTHER REFERENCE MATERIAL, AS APPLICABLE. SOURCE OF DATA: HISTORICAL FILES

Name	Label	Description

FAIL/RT/DTA/SOR   FAILURE RTE   ACRONYM: LCN - LOGISTIC CONTROL NUMBER
                  DATA SOURCE

PURPOSE OF DATA: ENTER THE DATA SOURCE BEING USED FOR A PARTICULAR ITEM
BEING DESCRIBED IN THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 5).
     THE DATA SOURCE SHOULD LIST ITS TITLE, E.G., A HANDBOOK, REPORT,
TEST AND/OR OPERATIONAL DATA, OR SOME OTHER REFERENCE MATERIAL. THE
DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER
(LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: THE ORIGINAL SOURCE OF THIS DATA IS FOUND IN THE
                FMECA PLAN, HOWEVER, THE DIRECT SOURCE IS PROCESS
                301.2.4.1.2A2 (DETERMINE ANALYSIS APPROACH)

FME/DTA   FMEA DATA   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                                         LCN - LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR
TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA
IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL
NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS
TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET
DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN
THE DATA BANK:
          A. IDENTIFICATION NUMBER (LCN)
          B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
          C. FUNCTION
          D. FAILURE MODES AND CAUSES
          E. MISSION PHASE/OPERATIONAL MODE
          F. FAILURE EFFECTS
               a. LOCAL EFFECTS
               b. NEXT HIGHER LEVEL
               c. END EFFECTS
          G. FAILURE DETECTION MEANS
          H. COMPENSATING PROVISIONS
          I. SEVERITY CLASS
          J. REMARKS
SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)

ID#   IDENTIFICTN   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                  NUMBER   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                                          LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                                          LCN   - LOGISTIC CONTROL NUMBER
                                          ALC   - ALTERNATE LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/
FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSER THE
IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA,
TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE
IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN
(MIL-STD-1388-2).
SOURCE OF DATA: CODING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT
                THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS
                301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL
                ATTRIBUTES) IN THE FMEA

Name	Label	Description

ITM/CRIT#	ITEM CRITICALITY NUMBER	ACRONYM: Cr - ITEM CRITICALITY NUMBER
		          LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER
		PURPOSE OF DATA: WRITE THE VALUE OF THE ITEM CRITICALITY NUMBER (Cr) TO THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 13). Cr IS THE NUMBER OF SYSTEM FAILURES OF A SPECIFIC TYPE EXPECTED DUE TO THE ITEM'S FAILURE MODES. Cr IS EXPRESSED BY A DECIMAL NUMBER, AND SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER (LCN).
		SOURCE OF DATA: PROCESS 301.2.4.1.2A4B6 (COMPUTE ITEM CRITICALITY NUMBER)

OP/TIM	OPERATING TIME	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD t - OPERATING TIME PURPOSE OF DATA: WRITE THE VALUE FOR OPERATING TIME(t) TO THE APPROPRIATE LSAR ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER. THE OPERATING TIME IS A NUMBER EXPRESSED IN HOURS OR NUMBER OF OPERATING CYCLES OF THE ITEM PER MISSION. SOURCE OF DATA: MISSION TIMES ARE ORIGINALLY DEFINED IN THE FMEA, HOWEVER, THE VALUES OF OPERATING TIMES (DERIVED FROM THESE MISSION TIMES) ARE DETERMINED IN PROCESS 301.2.4.1.2A4B4 (DETERMINE OPERATING TIMES)
SYS/DEF	SYSTEM DEFINITION	ACRONYM: PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM INVESTIGATED. SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS, OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES. ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY):

        1. RELIABILITY DATA

        2. FAILURE RATE DATA

        3. SPARES AND SPARE FUNDING DATA

Name	Label	Description
B2/16/1	REC B2 CARD B16 BLOCK 1	THIS ENTITY IS THE LOCATION OF THE LSAR RECORD B1, CARD B16, BLOCK 1. THE DATA TO BE WRITTEN TO THIS LOCATION SHALL CONTAIN THE ID NUMBER (LOGISTIC CONTROL NUMBER) IDENTIFYING ITEMS AND MODES FOR THE QUANTATIVE CRITICALITY ANALYSIS.
B2/16/10	REC B2 CARD B16 BLOCK 10	THIS ENTITY IS THE FAILURE RATE DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 10.
B2/16/11	REC B2 CARD B16 BLOCK 11	THIS ENTITY CONSISTS OF THE OPERATING TIME DETERMINED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 11.
B2/16/12	REC B2 CARD B16 BLOCK 12	THIS ENTITY CONTAINS THE FAILURE MODE CRITICALITY NUMBER DETERMINED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED IN LSAR RECORD B2, CARD B16, BLOCK 12.
B2/16/13	REC B2 CARD B16 BLOCK 13	THIS ENTITY CONTAINS THE ITEM CRITICALITY NUMBER DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 13.
B2/16/5	REC B2 CARD B16 BLOCK 5	THIS ENTITY CONTAINS THE FAILURE RATE DATA SOURCES DETERMINED FOR EACH SEPARATE ITEM/MODE IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED IN LSAR RECORD B2, CARD B16, BLOCK 5.
B2/16/8	REC B2 CARD B16 BLOCK 8	THIS ENTITY CONTAINS THE FAILURE PROBABILITY DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 8.
B2/16/9	REC B2 CARD B16 BLOCK 9	THIS ENTITY CONTAINS THE FAILURE MODE RATIO DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 9.
B2/17/1	REC B2 CARD B17 BLOCK 1	THIS ENTITY CONTAINS THE ID NUMBER (LOGISTIC CONTROL NUMBER) FOR THE FAILURE PROBABILITY DEVELOPED IN THE QUALITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B17, BLOCK 1.
B2/17/5	REC B2 CARD B17 BLOCK 5	THIS ENTITY CONTAINS THE FAILURE PROBABILITY DEVELOPED IN THE QUALITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B17, BLOCK 5.
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.

APPENDIX B
SUBTASK 301.2.4.1.2A4B

Name	Label	Description

301.2.4.1.2A4B1	DETERMINE FAILURE EFFECT PROBABLTY	ACRONYMS: BETA - FAILURE EFFECT PROBABILITY
		        CA - CRITICALITY ANALYSIS
		        LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		        LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DETERMINE VALUE OF THE FAILURE EFFECT PROBABILITY
(BETA). BETA VALUES ARE THE CONDITIONAL PROBABILITY THAT THE FAILURE
EFFECT WILL RESULT IN THE IDENTIFIED CRITICALITY CLASSIFICATION, GIVEN
THAT THE FAILURE MODE OCCURS. BETA VALUES REPRESENT THE ANALYST'S
JUDGMENT AS TO THE CONDITIONAL PROBABILITY THAT THE LOSS WILL OCCUR AND
SHOULD BE QUANTIFIED IN GENERAL ACCORDANCE WITH THE FOLLOWING:

FAILURE EFFECT	BETA VALUE
ACTUAL LOSS	1.00
PROBABLE LOSS	>0.10 TO <1.00
POSSIBLE LOSS	>0 TO -0.10
NO EFFECT	0

ONCE DETERMINED, THE VALUE SHALL BE ENTERED ON BOTH THE CA
WORKSHEET AND LSAR RECORD B2, CARD 16, BLOCK 8, NEXT TO ITS APPROPRIATE
IDENTIFICATION NUMBER (LCN).
SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

301.2.4.1.2A4B2	DETERMINE FAILURE MDE RATIO	ACRONYM: ALPHA - FAILURE MODE RATIO
		          CA - CRITICALITY ANALYSIS
		          LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DETERMINE THE VALUE OF THE FAILURE MODE RATIO
(ALPHA). ALPHA IS THE PROBABILITY, EXPRESSED AS A DECIMAL FRACTION,
THAT THE PART OR ITEM WILL FAIL IN THE IDENTIFIED FAILURE MODE UNDER
CONSIDERATION. IF ALL POTENTIAL FAILURE MODES OF A PARTICULAR PART OR
ITEM ARE LISTED, THE SUM OF THE ALPHA VALUES FOR THAT PART WILL EQUAL
ONE. INDIVIDUAL FAILURE MODE MULTIPLIERS MAY BE DERIVED FROM HISTORICAL
FAILURE RATE DATA SOURCES OR FROM TEST AND OPERATIONAL DATA. IF FAILURE
MODE DATA ARE NOT AVAILABLE, THE ALPHA VALUES SHALL REPRESENT THE
ANALYST'S JUDGMENT BASED UPON AN ANALYSIS OF THE ITEM'S FUNCTIONS.

ONCE DETERMINED, THE VALUE SHALL BE ENTERED ON BOTH THE CA WORKSHEET
AND LSAR RECORD B2, CARD B16, BLOCK 9, NEXT TO THE APPROPRIATE
IDENTIFICATION NUMBER (LCN).
SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
301.2.4.1.2A4B3	DETERMINE PART FAILURE RATE	ACRONYM: LAMBDAp - PART FAILURE RATE CA - CRITICALITY ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DETERMINE THE VALUE ASSOCIATED WITH A SPECIFIC
PART'S FAILURE RATE (LAMBDAp). LAMBDA IS DETERMINED FROM THE
APPROPRIATE RELIABILITY PREDICTION OR AS CALCULATED USING THE PROCEDURE
DESCRIBED IN MIL-HDBK-217. WHERE APPROPRIATE, APPLICATION FACTORS
(PI-A), ENVIRONMENTAL FACTORS (PI-E), AND OTHER PI-FACTORS, AS MAY BE
REQUIRED, SHALL BE APPLIED TO THE BASE FAILURE RATES OBTAINED FROM
HANDBOOKS OR OTHER REFERENCE MATERIAL TO ADJUST FOR DIFFERENCES IN
OPERATING STRESSES. VALUES OF PI-FACTORS UTILIZED IN COMPUTING LAMBDAp
SHALL BE LISTED.

   ONCE DETERMINED, THE VALUE MUST BE WRITTEN TO BOTH THE CRITICALITY
ANALYSIS WORKSHEET AND LSAR RECORD B2, CARD B16, BLOCK 10, NEXT TO ITS
APPROPRIATE IDENTIFICATION NUMBER (LCN).
SOURCE OF PROCESS: MIL-STD-1629A, MIL-HDBK-217

Name	Label	Description
301.2.4.1.2A4B4	DETERMINE OPERATING TIME	ACRONYM: t - OPERATING TIME CA - CRITICALITY ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: DETERMINE THE VALUE FOR OPERATING TIME NEEDED FOR
FURTHER INVESTIGATION OF THE CRITICALITY ANALYSIS. OPERATING TIMES ARE
DEFINED IN HOURS OR NUMBER OF OPERATING CYCLES. ONCE DETERMINED, THE
OPERATING TIME SHALL BE WRITTEN ON THE CA WORKSHEET AND ALSO COPIED
TO LSAR RECORD B2, CARD 16, BLOCK 10, NEXT TO ITS APPROPRIATE
IDENTIFICATION NUMBER (LCN).
SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description

301.2.4.1.2A4B5   COMPUTE   ACRONYM: Cm - FAILURE MODE CRITICALITY NUMBER

                 FAILURE   CA - CRITICALITY ANALYSIS

                 MODE   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

                 CRIT NUM   LCN - LOGISTIC CONTROL NUMBER]

PURPOSE OF PROCESS: COMPUTE THE FAILURE MODE CRITICALITY NUMBER Cm NEEDED FOR THE CA. Cm IS THE PORTION OF THE CRITICALITY NUMBER FOR THE ITEM, DUE TO ONE OF ITS FAILURE MODES UNDER A PARTICULAR SEVERITY CLASSIFICATION. FOR A PARTICULAR SEVERITY CLASSIFICATION AND OPERATIONAL PHASE, THE Cm FOR A FAILURE MODE MAY BE CALCULATED WITH THE FOLLOWING FORMULA:

$$Cm = (BETA)(ALPHA)(LAMBDAp)(t)$$

WHERE:

        Cm = CRITICALITY NUMBER FOR FAILURE MODE.

      BETA = CONDITIONAL PROBABILITY OF MISSION LOSS (DETERMINED IN PROCESS 301.2.4.1.2A4B1).

     ALPHA = PART FAILURE MODE RATIO (DETERMINED IN PROCESS 301.2.4.1.2A4B2).

  LAMBDAp = PART FAILURE RATE (DETERMINED IN PROCESS 301.2.4.1.2A4B3).

         t = DURATION OF APPLICABLE MISSION PHASE USUALLY EXPRESSED IN HOURS OR NUMBER OF OPERATING CYCLES (DETERMINED IN PROCESS 301.2.4.1.2A4B4).

ONCE COMPUTED, THE VALUE SHALL BE ENTERED ON BOTH THE CA WORKSHEET AND LSAR RECORD B2, CARD B16, BLOCK 12, NEXT TO ITS APPROPRIATE IDENTIFICATION NUMBER (LCN).

SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.2A4B6   COMPUTE   ACRONYM: Cr - ITEM CRITICALITY NUMBER

                 ITEM   CA - CRITICALITY ANALYSIS

                 CRITICLTY   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

                 NUMBER   LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF PROCESS: COMPUTE THE ITEM CRITICALITY NUMBER (Cr). Cr, THE SECOND CRITICALITY NUMBER COMPUTED, IS THE NUMBER OF SYSTEM FAILURES OF A SPECIFIC TYPE EXPECTED DUE TO THE ITEM'S FAILURE MODES. THE SPECIFIC TYPE OF SYSTEM FAILURE IS EXPRESSED BY THE SEVERITY CLASSIFICATION FOR THE ITEM'S FAILURE MODES. FOR A PARTICULAR SEVERITY CLASSIFICATION AND MISSION PHASE, THE Cr FOR AN ITEM IS THE SUM OF THE FAILURE MODE CRITICALITY NUMBERS, Cm, UNDER THE SEVERITY CLASSIFICATION AND MAY ALSO BE CALCULATED USING THE FOLLOWING FORMULA:

$$Cr = \sum_{n=1}^{j}[(BETA)(ALPHA)(LAMBDAp)(t)]n \qquad n = 1,2,3,\ldots j$$

WHERE:

        Cr = CRITICALITY NUMBER FOR THE ITEM.

        n = THE FAILURE MODES IN THE ITEMS THAT FALL UNDER A PARTICULAR CRITICALITY CLASSIFICATION.

        j = LAST FAILURE MODE IN THE ITEM UNDER THE CRITICALITY CLASSIFICATION.

ONCE COMPUTED THE NUMBER SHALL BE ENTERED ON BOTH THE CA WORKSHEET AND LSAR RECORD B2, CARD 16, BLOCK 13, NEXT TO ITS RESPECTIVE IDENTIFICATION NUMBER (LCN).

SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

CA/W — CRITICALITY ANALYSIS WORKSHEET

ACRONYM: CA - CRITICALITY ANALYSIS
         LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: UPDATE THE CA WORKSHEET AS NEW DATA ARE ENTERED, THUS
PROVIDING THE ANALYST WITH A CURRENT WORKSHEET AT ALL TIMES. THIS DATA
REPRESENTS THE CURRENT CA DATA AND FLOWS FROM PROCESS TO PROCESS UNTIL
COMPLETE. DATA CONTAINED IN THE CA WORKSHEET MAY CONSIST OF THE
FOLLOWING:
  1. IDENTIFICATION NUMBER (LCN)
  2. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
  3. FUNCTION
  4. FAILURE MODES AND CAUSES
  5. MISSION PHASE/OPERATIONAL MODE
  6. SEVERITY CLASSIFICATION
  7. FAILURE RATE DATA SOURCE
     or FAILURE EFFECT PROBABILITY
  8. FAILURE MODE RATIO
  9. FAILURE RATE
  10. OPERATING TIME
  11. FAILURE MODE CRITICALITY NUMBER
  12. ITEM CRITICALITY NUMBER
  13. REMARKS
SOURCE OF DATA: THE DATA FLOWS WITHIN THE CRITICALITY ANALYSIS
                 OBTAINING DATA AS IT FLOWS. THE SOURCE, ONCE DATA
                 ENTRY IS COMPLETE, IS PROCESS 301.2.4.1.2A5 (FINALIZE
                 CA WORKSHEET W/APPROPRIATE REMARKS).

FAIL/MOD/CRIT/# — FAILURE MOD CRITICALITY NUMBER

ACRONYMS: Cm   - FAILURE MODE CRITICALITY NUMBER
           LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
           LCN - LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE MODE CRITICALITY NUMBER
(Cm) TO THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 12). Cm IS THE
PORTION OF THE CRITICALITY NUMBER FOR THE ITEM DUE TO ONE OF ITS FAILURE
MODES UNDER A PARTICULAR SEVERITY CLASSIFICATION. THE VALUE IS
REPRESENTED BY A DECIMAL NUMBER. THE DATA SHALL BE WRITTEN ALONGSIDE
ITS RESPECTIVE IDENTIFICATION NUMBER (LCN), LOCATED IN BLOCK 1 OF THE
SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.2A4B5 (CALCULATE FAILURE MODE
                 CRITICALITY NUMBER)

FAIL/MOD/RT — FAILURE MODE RATIO

ACRONYMS: ALPHA - FAILURE MODE RATIO
           LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
           LCN   - LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: WRITE THE VALUE OF FAILURE MODE RATIO (ALPHA) TO THE
APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 9). ALPHA IS THE FRACTION
OF THE PART FAILURE RATE RELATED TO THE PARTICULAR FAILURE MODE UNDER
CONSIDERATION, AND IS REPRESENTED BY A NUMBER IN THE DECIMAL FORM. THE
DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER
(LCN), LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.2A4B2 (DETERMINE FAILURE MODE RATIO)

Name	Label	Description
FAIL/PROB	FAILURE PROBABILITY	ACRONYMS: BETA - FAILURE EFFECT PROBABILITY CA - CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE EFFECT PROBABILITY (BETA) TO THE APPROPRIATE LSAR (RECORD B1, CARD B17, BLOCK 5). BETA VALUES ARE THE CONDITIONAL PROBABILITY THAT THE FAILURE EFFECT WILL RESULT IN THE IDENTIFIED CRITICALITY CLASSIFICATION, GIVEN THAT THE FAILURE MODE OCCURS. BETA HAS A NUMERICAL VALUE RANGING BETWEEN ZERO AND ONE, INCLUSIVE, AND IS EXPRESSED IN THE FORM OF A DECIMAL. THE DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATON NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. SOURCE OF DATA: PROCESS 310.2.4.1.2A4B1 (DETERMINE FAILURE EFFECT PROBABILITY)
FAIL/RATE	FAILURE RATE	ACRONYM: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LAMBDAp - PART FAILURE RATE LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE VALUE OF THE FAILURE RATE (LAMBDAp) FOR TRANSFERRAL TO THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 10). THE VALUE OF LAMBDAp IS EXPRESSED IN TERMS OF A NUMERIC DECIMAL, WHICH IS A NUMERIC RATING OF A PARTS FAILURE RATE. .THE DATA SHALL BE WRITTEN ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. SOURCE OF DATA: PROCESS 301.2.4.1.2A4B3 (DETERMINE PART FAILURE RATE)
FAIL/RT/DAT	FAILURE RTE DATA	ACRONYMS: PURPOSE OF DATA: ASSISTS THE ANALYST IN OBTAINING PERTINENT DATA REQUIRED IN THE CRITICALITY ANALYSIS. FAILURE RATE DATA USED FOR THE RELIABILITY AND MAINTAINABILITY ANALYSES REQUIRED BY CONTRACT SHALL BE THE SAME AS FOUND HERE, UNLESS OTHERWISE SPECIFIED BY THE PROCURING ACTIVITY. WHEN OTHER ANALYSES ARE NOT REQUIRED BY CONTRACT OR A FAILURE RATE DATA SOURCE HAS NOT BEEN SPECIFIED BY THE PROCURING ACTIVITY, FAILURE RATES AND FAILURE RATE ADJUSTMENT FACTORS (E.G. ENVIRONMENTAL AND QUALITY PI-FACTORS) SHALL BE DERIVED AS FOLLOWS: A. MIL-HDBK-217 SHALL BE THE PRIMARY SOURCE OF FAILURE RATE DATA FOR ELECTRONIC PARTS. BOTH THE BASE FAILURE RATE AND ALL FAILURE RATE ADJUSTMENT FACTORS SHALL BE IDENTIFIED. B. WHEN PARTS ARE SIMILAR TO THOSE LISTED IN MIL-HDBK-217, BASE FAILURE RATES SHALL BE SELECTED FROM THE HANDBOOK AND SHALL INCLUDE OTHER ADJUSTMENT FACTORS, SUCH AS SPECIAL QUALITY PI-FACTORS, AS MAY BE REQUIRED TO MODIFY THE HANDBOOK DATA FOR APPLICABILITY TO THE PARTICULAR PART. C. FAILURE RATE DATA FOR PARTS NOT COVERED BY MIL-HDBK-217 SHALL BE SELECTED FROM ALTERNATIVE DATA SOURCES. THIS DATA IS USED IN PROCESS 301.2.4.1.2A4B2 AND 301.2.4.1.2A4B3, DETERMINING FAILURE MODE RATIOS AND PART FAILURE RATES, RESPECTIVELY. THIS DATA MAY BE IN THE FORM OF HANDBOOKS, TEST AND OPERATIONAL DATA, REPORTS, OR OTHER REFERENCE MATERIAL, AS APPLICABLE. SOURCE OF DATA: HISTORICAL FILES

Name   Label   Description
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ITM/CRIT#   ITEM   ACRONYM: Cr   - ITEM CRITICALITY NUMBER
                        CRITICALITY   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                        NUMBER   LCN - LOGISTIC CONTROL NUMBER
                                        PURPOSE OF DATA: WRITE THE VALUE OF THE ITEM CRITICALITY NUMBER (Cr) TO
                                        THE APPROPRIATE LSAR (RECORD B1, CARD B16, BLOCK 13). Cr IS THE NUMBER
                                        OF SYSTEM FAILURES OF A SPECIFIC TYPE EXPECTED DUE TO THE ITEM'S FAILURE
                                        MODES. Cr IS EXPRESSED BY A DECIMAL NUMBER, AND SHALL BE WRITTEN
                                        ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER (LCN).
                                        SOURCE OF DATA: PROCESS 301.2.4.1.2A4B6 (COMPUTE ITEM CRITICALITY
                                                        NUMBER)

OP/TIM   OPERATING   ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                        TIME   t   - OPERATING TIME
                                        PURPOSE OF DATA: WRITE THE VALUE FOR OPERATING TIME(t) TO THE
                                        APPROPRIATE LSAR ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER. THE
                                        OPERATING TIME IS A NUMBER EXPRESSED IN HOURS OR NUMBER OF OPERATING
                                        CYCLES OF THE ITEM PER MISSION.
                                        SOURCE OF DATA: MISSION TIMES ARE ORIGINALLY DEFINED IN THE FMEA,
                                                         HOWEVER, THE VALUES OF OPERATING TIMES (DERIVED FROM
                                                         THESE MISSION TIMES) ARE DETERMINED IN PROCESS
                                                         301.2.4.1.2A4B4 (DETERMINE OPERATING TIMES)

SYS/DEF   SYSTEM   ACRONYM:
                        DEFINITION
                                        PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM
                                        INVESTIGATED.
                                            SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH
                                        MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS
                                        OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE
                                        SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL
                                        MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS,
                                        OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART
                                        FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES.
                                        ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE
                                        SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL
                                        ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS.
                                        SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
HIST/FILE	HISTORICAL DATA FILE	CONTAINS DATA PREVIOUSLY ACQUIRED ON THE ITEM UNDER INVESTIGATION (OR SIMILAR SYSTEM), AND MAY ADDRESS THE FOLLOWING AREAS (TO BE TREATED SEPARATELY):

    1. RELIABILITY DATA

    2. FAILURE RATE DATA
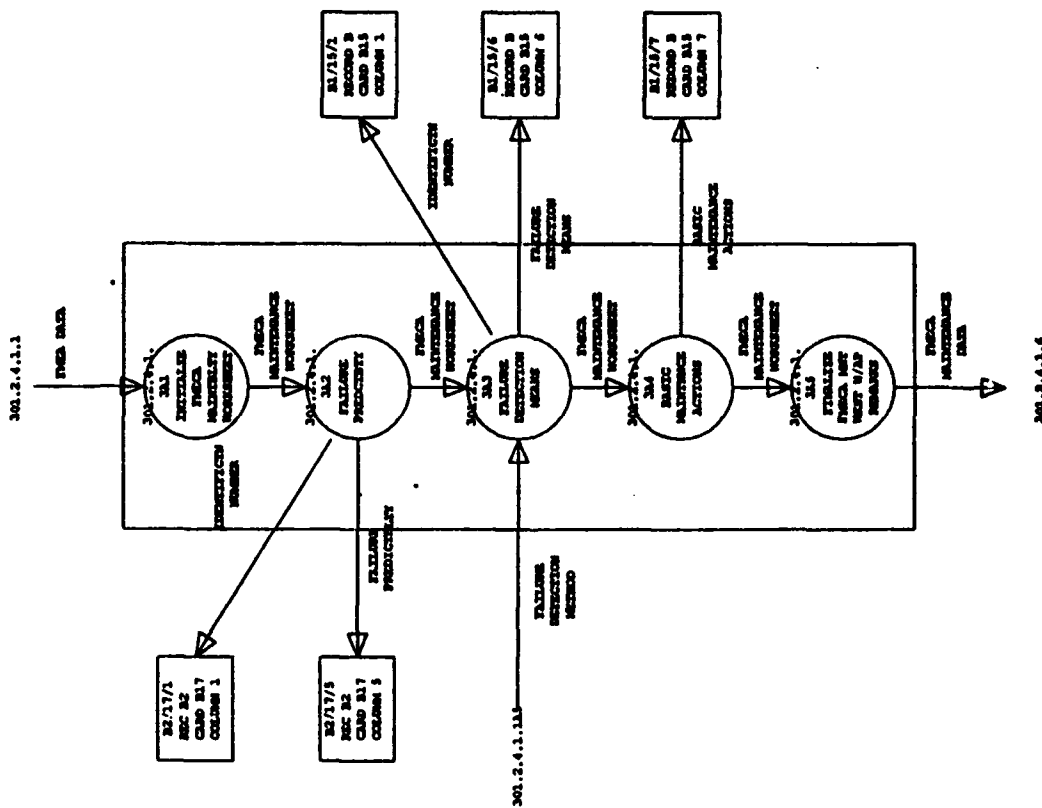
    3. SPARES AND SPARE FUNDING DATA

Name	Label	Description
B2/16/10	REC B2 CARD B16 BLOCK 10	THIS ENTITY IS THE FAILURE RATE DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 10.
B2/16/11	REC B2 CARD B16 BLOCK 11	THIS ENTITY CONSISTS OF THE OPERATING TIME DETERMINED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 11.
B2/16/12	REC B2 CARD B16 BLOCK 12	THIS ENTITY CONTAINS THE FAILURE MODE CRITICALITY NUMBER DETERMINED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED IN LSAR RECORD B2, CARD B16, BLOCK 12.
B2/16/13	REC B2 CARD B16 BLOCK 13	THIS ENTITY CONTAINS THE ITEM CRITICALITY NUMBER DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 13.
B2/16/8	REC B2 CARD B16 BLOCK 8	THIS ENTITY CONTAINS THE FAILURE PROBABILITY DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 8.
B2/16/9	REC B2 CARD B16 BLOCK 9	THIS ENTITY CONTAINS THE FAILURE MODE RATIO DATA DEVELOPED IN THE QUANTITATIVE CRITICALITY ANALYSIS AND RECORDED ON LSAR RECORD B2, CARD B16, BLOCK 9.

APPENDIX B
SUBTASK 301.2.4.1.3A

Name	Label	Description

301.2.4.1.3A1   INITIALZE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                FMECA   FMEA - FAILURE MODES AND EFFECTS ANALYSIS
                MAINTBLTY   LCN - LOGISTIC CONTROL NUMBER
                WORKSHEET

                            PURPOSE OF PROCESS: DOCUMENT THE FMECA-MAINTAINABILITY PROCESS BY
                            WRITING DATA PREVIOUSLY DETERMINED IN THE FMEA PROCESS. THE FOLLOWING
                            (ALSO FOUND IN THE FMEA WORKSHEET) SHALL BE TRANSFERRED TO THE
                            FMECA-MAINTAINABILITY INFORMATION WORKSHEET:
                                    a. INDENTIFICATION NUMBER (LCN)
                                    b. ITEM/FUNCTIONAL IDENTIFICATION
                                    c. FUNCTION
                                    d. FAILURE MODES AND CAUSES
                                    e. FAILURE EFFECTS
                                        1. LOCAL
                                        2. NEXT HIGHER LEVEL
                                        3. END
                                    f. SEVERITY CLASSIFICATION
                            SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.3A2   FAILURE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                 PREDCTBTY   LCN - LOGISTIC CONTROL NUMBER
                            PURPOSE OF PROCESS: DETERMINE THE PREDICTABILITY OF FAILURE. ENTER
                            INFORMATION ON KNOWN INCIPIENT FAILURE INDICATORS (E.G., OPERATIONAL
                            PERFORMANCE VARIATIONS) PECULIAR TO THE ITEM FAILURE TRENDS TO PERMIT
                            PREDICTING FAILURES. WHEN A FAILURE IS PREDICTABLE, DESCRIBE AND
                            IDENTIFY THE DATA THAT MUST BE COLLECTED, HOW IT WILL BE USED TO PREDICT
                            FAILURE, AND ANY TESTS OR INSPECTIONS THAT MAY BE ACCOMPLISHED TO DETECT
                            CONDITIONS WHICH COULD CAUSE THE FAILURE MODE. ONCE DETERMINED, THE
                            DATA SHALL BE ENTERED ON THE FMECA-MAINTENANCE WORKSHEET, AND THEN
                            TRANSFERRED TO LSAR RECORD B2, CARD B17, BLOCK 5, NEXT TO ITS RESPECTIVE
                            IDENTIFICATION NUMBER (LCN).
                            SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.3A3   FAILURE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                 DETECTION   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                 MEANS   LCN - LOGISTIC CONTROL NUMBER
                            PURPOSE OF DATA: DETERMINE FAILURE PREDICTION MEANS. IDENTIFY HOW EACH
                            FAILURE MODE WILL BE DETECTED BY THE ORGANIZATIONAL LEVEL MAINTENANCE
                            TECHNICIAN AND TO WHAT INDENTURE LEVEL THEY WILL BE LOCALIZED. DESCRIBE
                            THE METHOD BY WHICH AMBIGUITIES ARE RESOLVED WHEN MORE THAN ONE FAILURE
                            MODE CAUSES THE SAME FAILURE INDICATION. DESCRIBE ANY MONITORING OR
                            WARNING DEVICE THAT WILL INDICATE IMPENDING FAILURE AND ANY PLANNED
                            TESTS OR INSPECTIONS WHICH COULD DETECT OCCURRENCE OF THE FAILURE MODE.
                            IDENTIFY TO WHAT INDENTURE LEVEL FAILURES CAN BE ISOLATED BY THE USE OF
                            BUILT-IN-TEST FEATURES AND INDICATE WHEN ANCILLARY TEST EQUIPMENT WILL
                            BE REQUIRED FOR FAULT ISOLATION.
                                ONCE DETERMINED, THE DATA SHALL BE WRITTEN TO THE FMECA-MAINTENANCE
                            WORKSHEET AND LSAR RECORD B11, CARD B15, BLOCK 6, WITH THE APPROPRIATE
                            IDENTIFICATION NUMBER (LCN) WRITTEN TO BLOCK 1.
                            SOURCE OF DATA: MIL-STD-1629A

Name   Label   Description
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301.2.4.1.3A4   BASIC   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                  MAINTNNCE   FMEA - FAILURE MODE AND EFFECT ANALYSIS
                  ACTIONS   LCN   - LOGISTIC CONTROL NUMBER
                               PURPOSE OF PROCESS: DETERMINE BASIC MAINTENANCE ACTIONS. DESCRIBE THE
                               BASIC ACTIONS WHICH, IN THE ANALYST'S JUDGMENT, MUST BE TAKEN BY THE
                               MAINTENANCE TECHNICIAN TO CORRECT THE FAILURE. IDENTIFY THE SPECIAL
                               DESIGN PROVISIONS FOR MODUALR REPLACEMENT AND THE PROBABLE ADJUSTMENT
                               AND CALIBRATION REQUIREMENTS FOLLOWING REPAIR.
                                   ONCE DETERMINED, THE DATA SHALL BE WRITTEN TO THE FMECA-MAINTENANCE
                               WORKSHEET, AS WELL AS LSAR RECORD B1, CARD B15, BLOCK 7, NEXT TO THE
                               APPROPRIATE IDENTIFICATION NUMBER (LCN).
                               SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

301.2.4.1.3A5   FINALIZE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
                  FMECA MNT   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                  WKST W/AP
                  REMARKS   PURPOSE OF PROCESS: FINALIZE WORKSHEET WITH PERTINENT REMARKS. REMARKS
                               PERTAINING TO AND CLARIFYING OTHER COLUMNS SHALL BE NOTED. NOTES
                               REGARDING RECOMMENDATIONS FOR DESIGN IMPROVEMENT SHALL BE RECORDED AND
                               FURTHER AMPLIFIED IN THE FMECA FINAL REPORT. WHEN COMPLETE, THIS DATA
                               SHALL BE WRITTEN TO THE FMECA-MAINTENANCE WORKSHEET.
                               SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
BAS/MAINT/ACT	BASIC MAINTENANCE ACTIONS	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD / LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE CALCULATED MAINTENANCE ACTIONS TO LSAR RECORD B1, CARD 15, BLOCK 7, ALONGSIDE ITS RESPECTIVE IDENTIFICATION NUMBER [LCN] (LOCATED IN BLOCK 1 OF THE SAME LSAR CARD). SOURCE OF DATA: PROCESS 301.2.4.1.3A4 (DETERMINE BASIC MAINTENANCE ACTIONS)
FAIL/DET/METH	FAILURE DETECTION METHOD	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS / FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH INFORMATION PERTAINING TO THE FAILURE DETECTION MEANS NECESSARY TO COMPLETE THE FMECA MAINTAINABILITY WORKSHEET. THE FAILURE DETECTION MEANS SHALL CONTAIN DESCRIPTIONS OF METHODS BY WHICH OCCURRENCE OF THE FAILURE MODE MAY BE DETECTED BY THE OPERATOR. SOURCE OF DATA: PROCESS 301.2.4.1.1A5 (DETERMINE FAILURE DETECTION METHODS)
FAIL/DET/MNS	FAILURE DETECTION MEANS	ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS / LSAR - LOGISTIC SUPPORT ANALYSIS RECORD / LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: WRITE THE RESULTS OF THE FAILURE DETECTION MEANS DATA TO LSAR RECORD B1, CARD 15, BLOCK 6. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER [LCN] (LOCATED IN BLOCK 1 OF THE SAME LSAR CARD). SOURCE OF DATA: PROCESS 301.2.4.1.3A3 (DETERMINE FAILURE DETECTION MEANS)
FAIL/PRED	FAILURE PREDICTBLTY	ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS / LSAR - LOGISTIC SUPPORT ANALYSIS RECORD PURPOSE OF DATA: TRANSFER FAILURE PREDICTABILITY DATA DETERMINED IN THE FMECA-MAINTENANCE ANALYSIS TO APPROPRIATE LOCATION ON THE LSAR CARDS. SOURCE OF DATA: PROCESS 301.2.4.1.3A2 FAILURE PREDICTABILITY

Name	Label	Description

FM/MAINT/DTA   **FMECA MAINTENANCE DATA**

ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

           LCN   - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSFER TO THE FMECA FINAL REPORT. DATA SHALL COMPRISE A FMECA MAINTENANCE WORKSHEET, CONTAINING THE FOLLOWING:

     a. IDENTIFICATION NUMBER (LCN)
     b. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
     c. FUNCTION
     d. FAILURE MODES AND CAUSES
     e. FAILURE EFFECTS
         1. LOCAL EFFECTS
         2. NEXT HIGHER LEVEL
         3. END EFFECTS
     f. SEVERITY CLASSIFICATION
     g. FAILURE PREDICTABILITY
     h. FAILURE DETECTION MEANS
     i. BASIC MAINTENANCE ACTIONS
     j. REMARKS

SOURCE OF DATA: PROCESS 301.2.4.1.3 (CONDUCT FMECA MAINTENANCE ANALYSIS)

FME/DTA   **FMEA DATA**

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS

          LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN THE DATA BANK:

     A. IDENTIFICATION NUMBER (LCN)
     B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
     C. FUNCTION
     D. FAILURE MODES AND CAUSES
     E. MISSION PHASE/OPERATIONAL MODE
     F. FAILURE EFFECTS
         a. LOCAL EFFECTS
         b. NEXT HIGHER LEVEL
         c. END EFFECTS
     G. FAILURE DETECTION MEANS
     H. COMPENSATING PROVISIONS
     I. SEVERITY CLASS
     J. REMARKS

SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)

Name	Label	Description
FMECA/MAINT/WKST	FMECA MAINTENANCE WORKSHEET	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: INFORM THE ANALYST REGARDING CURRENT DATA ENTERED ON THE WORKSHEET. ONCE ENTERED, THE DATA MAY BE UPDATED OR USED FOR FURTHER ANALYSIS WITHIN THE TASK. THE FOLLOWING MAY APPEAR ON THE WORKSHEET:

    a. IDENTIFICATION NUMBER (LCN)

    b. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)

    c. FUNCTION

    d. FAILURE MODES AND CAUSES

    e. FAILURE EFFECTS

        1. LOCAL EFFECTS

        2. NEXT HIGHER LEVEL

        3. END EFFECTS

    f. SEVERITY CLASSIFICATION

    g. FAILURE PREDICTABILITY

    h. FAILURE DETECTION MEANS

    i. BASIC MAINTENANCE ACTIONS

    j. REMARKS

    THE WORKSHEET TRAVELS THROUGHOUT THE FMECA MAINTENANCE PROCESS.

SOURCE OF DATA: PORCESS 301.2.4.1.3 (CONDUCT FMECA MAINTENANCE ANALYSIS)

ID#	IDENTIFICTN NUMBER	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER ALC - ALTERNATE LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/ FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSFER THE IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA, TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN (MIL-STD-1388-2).

SOURCE OF DATA: CODING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL ATTRIBUTES) IN THE FMEA

Name	Label	Description
B1/15/1	RECORD B1 CARD B15 BLOCK 1	THIS ENTITY REFERS TO LSAR RECORD B1, CARD B15, BLOCK 1. DATA WRITTEN TO THIS LOCATION SHALL BE THE ID NUMBER (LOGISTIC CONTROL NUMBER) WHICH IDENTIFIES THE FAILURE DETECTION METHOD AND BASIC MAINTENANCE ACTIONS.
B1/15/6	RECORD B1 CARD B15 BLOCK 6	THIS ENTITY REFERS TO LSAR RECORD B1, CARD B15, BLOCK 6. DATA WRITTEN TO THIS ENTITY SHALL BE THE FAILURE DETECTION METHOD DETERMINED IN THE FMECA.
B1/15/7	RECORD B1 CARD B15 BLOCK 7	THIS ENTITY DEFINES THE LSAR LOCATION OF RECORD B1, CARD B15, BLOCK 7. DATA TO BE WRITTEN TO THIS ENTITY SHALL CONTAIN THE BASIC MAINTENANCE ACTIONS DEVELOPED IN THE FMECA.
B2/17/1	REC B2 CARD B17 BLOCK 1	THIS ENTITY CONTAINS THE ID NUMBER (LOGISTIC CONTROL NUMBER) FOR THE FAILURE PROBABILITY DEVELOPED IN THE QUALITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B17, BLOCK 1.
B2/17/5	REC B2 CARD B17 BLOCK 5	THIS ENTITY CONTAINS THE FAILURE PROBABILITY DEVELOPED IN THE QUALITATIVE CRITICALITY ANALYSIS RECORDED ON LSAR RECORD B2, CARD B17, BLOCK 5.

APPENDIX B
SUBTASK 301.2.4.1.4A

Name	Label	Description

301.2.4.1.4A0 IDENTIFY ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
               DMEA
               APPROACH PURPOSE OF PROCESS: DETERMINE THE DMEA ANALYSIS APPROACH. IF THE
                         SYSTEM INVESTIGATED IS A NEW SYSTEM, THE PROCESSES THAT MUST BE
                         ACCOMPLISHED ARE AS FOLLOWS:
                                   301.2.4.1.4A1
                                   301.2.4.1.4A3
                                   301.2.4.1.4A5
                                   301.2.4.1.4A8
                                   301.2.4.1.4A9
                         IF THE SYSTEM INVESTIGATED IS AN OLD SYSTEM BEING RE-EVALUATED FOR A
                         NEW THREAT, THEN PROCESSES 301.2.4.1.4A2, 301.2.4.1.4A4, AND
                         301.2.4.1.4A6 MUST BE ACCOMPLISHED IN ADDITION TO THE PROCESSES
                         NECESSARY TO EVALUATE A NEW SYSTEM.
                         SOURCE OF PROCESS:

301.2.4.1.4A1 INITIATE ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
               DMEA WKST   FMEA - FAILURE MODES AND EFFECTS ANALYSIS
               FOR NEW   LCN - LOGISTIC CONTROL NUMBER
               SYSTEMS

                         PURPOSE OF PROCESS: INITIATE THE DMEA WORKSHEET BY TRANSFERRING DATA
                         ALREADY DETERMINED IN THE FMEA WORKSHEET DIRECTLY TO THE DMEA WORKSHEET.
                         THE FOLLOWING REPRESENTS THE TRANSFERRABLE DATA:
                             a. IDENTIFICATION NUMBER (LCN)
                             b. ITEM/FUNCTIONAL IDENTIFICATION
                             c. FUNCTION
                             d. FAILURE MODES AND CAUSES
                             e. MISSION PHASE/OPERATIONAL MODE
                             f. SEVERITY CLASSIFICAITON
                         SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4A2 INITIATE ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
               DMEA WKST   FMEA - FAILURE MODE EFFECTS ANALYSIS
               FOR DVLPD   LCN - LOGISTIC CONTROL NUMBER
               WEAP SYS
                         PURPOSE OF PROCESS: PROVIDE DATA NEEDED FROM THE DMEA WORKSHEET (NOT
                         NECESSARILY ACCOMPLISHED FOR PREVIOUSLY DEVELOPED SYSTEMS) BY EITHER
                         USING AVAILABLE HISTORICAL DATA OR DEVELOPING NEW DATA USING JUDGMENT.
                             IF THE ANALYST MUST DEVELOP HIS OWN DATA, THEN PROCEDURES FOUND IN
                         THE FMEA SHOULD BE FOLLOWED. IF THE PROCURING ACTIVITY IDENTIFIES A
                         PLAN, THE ANALYST SHALL FOLLOW IT; HOWEVER, IF NO PLAN IS IDENTIFIED, HE
                         MUST CREATE HIS OWN DMEA PLAN ON THE PREVIOUSLY DEVELOPED SYSTEM. DATA
                         REQUIRED IS THE SAME AS REQUIRED FOR INITIATING THE WORKSHEET FOR NEW
                         SYSTEMS (FOUND IN THE FMEA WORKSHEET) AND IS LISTED BELOW:
                             a. IDENTIFICATION NUMBER (LCN)
                             b. ITEM/FUNCTIONAL IDENTIFICATION
                             c. FUNCTION
                             d. FAILURE MODES AND CAUSES
                             e. MISSION PHASE/OPERATIONAL MODE
                             f. SEVERITY CLASSIFICATION
                         SOURCE OF PROCESS:

Name	Label	Description

301.2.4.1.4A3   IDENTIFY   ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                OPERATION   FMEA - FAILURE MODES AND EFFECTS ANALYSIS
                & MISSION
                ESS FNCTS PURPOSE OF PROCESS: ESTABLISH THE SYSTEM'S OPERATION AND MISSION
                           ESSENTIAL FUNCTIONS DOWN TO THE INDENTURE LEVEL, SUCH THAT INDIVIDUAL
                           SUBSYSTEMS AND MAJOR COMPONENTS REQUIRED TO PERFORM THE FUNCTION CAN BE
                           IDENTIFIED. THIS INFORMATION MAY BE FOUND IN THE SYSTEM DEFINITION
                           CREATED IN THE FMEA.
                           SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4A4   EVALUATE   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                TOTAL   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                SYSTEM
                SURVVBLTY PURPOSE OF DATA: THE ANALYST SHALL PROVIDE INFORMATION NECESSARY FOR
                           PERFORMING THE DMEA ANALYSIS ON SYSTEMS ALREADY DEVELOPED, BUT
                           WHICH REQUIRE REASSESSMENT. THE ANALYST SHALL DETERMINE THE IMPACT
                           OF THE NEW RETROFIT PROGRAM SYSTEM SURVIVABILITY. THIS SHALL BE
                           ACCOMPLISHED USING ENGINEERING DATA FROM THE ENGINEERING CHANGE
                           PROPOSALS. THE ANALYST SHALL INVESTIGATE THE SYSTEM TO THE INDENTURE
                           LEVEL SPECIFIED. IF NO FUNCTIONAL/RELIABILITY BLOCK DIAGRAMS ARE
                           PROVIDED, THE ANALYST MUST CREATE THEM USING PROCESSES FOUND IN THE
                           FMEA.
                           SOURCE OF DATA:

301.2.4.1.4A5   IDENTIFY   ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                CRITICAL
                COMPONNTS PURPOSE OF PROCESS: USING THE SYSTEM SCHEMATICS OR FUNCTIONAL BLOCK
                           DIAGRAM, THE ASSIGNED SEVERITY CODES, AND THE ESTABLISHED WEAPON SYSTEM
                           OPERATION AND MISSION ESSENTIAL FUNCTIONS, IDENTIFY EACH SUBSYSTEM AND
                           MAJOR COMPONENT REQUIRED TO PERFORM EACH MISSION ESSENTIAL FUNCTION.
                           THE RELIABILITY BLOCK DIAGRAM SHALL BE USED TO IDENTIFY SUBSYSTEM AND
                           FUNCTION REDUNDANCIES. A CRITICAL COMPONENTS LIST SHALL BE DEVELOPED BY
                           THE ANALYST AND INCLUDED WITH THE DMEA WORKSHEETS.
                           SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4A6   EVALUATE   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                EFF OPRTS   ECP - ENGINEERING CHANGE PROPOSALS
                IN HOSTLE
                ENVIRNMNT PURPOSE OF PROCESS: THE ANALYST SHALL ASSESS WHETHER OR NOT THE SYSTEM
                           UNDER CONSIDERATION IS STILL CAPABLE OF OPERATING EFFECTIVELY IN A
                           HOSTILE ENVIRONMENT. THIS TASK SHALL BE COMPLETED UTILIZING ECP DATA
                           PERTAINING TO THREAT REASSESSMENT AND SURVIVABILITY. THIS DATA WILL
                           HELP DETERMINE DAMAGE MODES OF DEVELOPED SYSTEMS.
                           SOURCE OF DATA:

Name	Label	Description

301.2.4.1.4A7 DETERMINE ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
               DAMAGE   FMEA - FAILURE MODES AND EFFECTS ANALYSIS
               MODES   DMI - DAMAGE MODE INDICATOR

PURPOSE OF PROCESS: DETERMINE THROUGH ANALYSIS FOR EACH SUBSYSTEM, COMPONENT OR PART, ALL DAMAGE MODES WHICH COULD RESULT FROM EXPOSURE TO THE SPECIFIED THREAT MECHANISM(S).

THE ANALYSIS SHALL INCLUDE BOTH PRIMARY AND SECONDARY DAMAGE EFFECTS. DAMAGE MODES OF INDIVIDUAL ITEM FUNCTIONS SHALL BE POSTULATED ON THE BASIS OF STATED MISSION REQUIREMENTS, SPECIFIED THREATS, AND SYSTEM DESCRIPTIONS. EFFECTS OF THE POSSIBLE DAMAGE MODE SHALL INCLUDE PERFORMANCE DEGRADATION AS WELL AS TOTAL ITEM FAILURE.

TO ASSURE THAT A COMPLETE DAMAGE MODE ANALYSIS IS PERFORMED, EACH DAMAGE MODE AND FUNCTION SHALL, AS A MINIMUM, BE EXAMINED AND RECORDED IN RELATION TO THE FOLLOWING TYPICAL DAMAGE CONDITIONS:

a. PENETRATION
b. SEVERED
c. SHATTERED, CRACKED
d. JAMMED
e. DEFORMED
f. IGNITED, DETONATED
g. BURNED OUT (I.E., ELECTRICAL OVERLOAD)
h. BURN THROUGH (I.E., THREAT CAUSED FIRES)

A DAMAGE MODE INDICATOR CODE SHALL BE ESTABLISHED FOR EACH ITEM'S INDIVIDUAL DAMAGE MODE. IT SHALL BE A TWO-DIGIT NUMERIC CODE RANGING FROM 00 TO 99. EACH ITEM'S DAMAGE CODE SHALL HAVE A UNIQUE VALUE, AND THIS NUMBER SHALL BE USED FOR IDENTIFICATION IN THE LSAR.
SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4A8 DETERMINE ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
               DAMAGE   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
               EFFECT

PURPOSE OF DATA: IDENTIFY, EVALUATE, AND RECORD THE CONSEQUENCES OF EACH ASSUMED DAMAGE MODE ON ITEM OPERATION, FUNCTION OR STATUS. DAMAGE EFFECTS SHALL FOCUS ON THE SPECIFIC BLOCK DIAGRAM ELEMENT WHICH IS AFFECTED BY THE DAMAGE CONDITION UNDER CONSIDERATION. THIS DAMAGE MODE MAY IMPACT SEVERAL INDENTURE LEVELS IN ADDITION TO THE INDENTURE LEVEL UNDER ANALYSIS; THEREFORE, "LOCAL," "NEXT HIGHER LEVEL," AND "END" EFFECTS SHALL BE EVALUATED. THESE LEVELS ARE INVESTIGATED FURTHER IN THE EXPLOSION OF THIS PROCESS.
SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

301.2.4.1.4A9   FINALIZE   ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                DMEA WKST   FMEA - FAILURE MODES AND EFFECTS ANALYSIS
                W/APPROP
                REMARKS   PURPOSE OF PROCESS: THE ANALYST SHALL COMPLETE THE WORKSHEET WITH ANY
                          PERTINENT REMARKS PERTAINING TO AND CLARIFYING ANY OTHER COLUMN IN THE
                          WORKSHEET. RECOMMENDATIONS FOR DESIGN IMPROVEMENT SHALL BE RECORDED.
                          THIS ENTRY ALSO MAY INCLUDE A NOTATION OF UNUSUAL CONDITIONS, DAMAGE
                          EFFECTS OF REDUNDANT ITEMS, RECOGNITION OF PARTICULARLY CRITICAL DESIGN
                          FEATURES, OR ANY OTHER REMARKS THAT AMPLIFY THE LINE ENTRY. INFORMATION
                          SHALL BE PROVIDED THAT REASONABLE ACTIONS AND CONSIDERATIONS ARE OR HAVE
                          BEEN ACCOMPLISHED TO ENHANCE SURVIVABILITY THROUGH RECOMMENDED DESIGN
                          CHANGES.
                              INFORMATION PROVIDED SHALL ADDRESS THE FOLLOWING:
                              a. DESIGN.   THOSE FEATURES OF THE DESIGN THAT RELATE TO THE
                                 IDENTIFIED DAMAGE MODE THAT MINIMIZE THE VULNERABILITY WITH
                                 RESPECT TO THE SPECIFIED THREAT MECHANISMS; I.E., REDUNDANCY,
                                 SEPARATION OF COMPONENTS, LINES, AND STRUCTURE, ELIMINATION OF
                                 FIRE PATHS, INTEGRAL ARMOR, ETC.
                              b. TEST.   THOSE TESTS RECOMMENDED TO VERIFY THE DESIGN FEATURES
                                 RECOMMENDED OR INCORPORATED FOR SURVIVABILITY ENHANCEMENT.
                              c. HISTORY.   IDENTIFICATION OF PREVIOUS TESTING AND ANALYSIS
                                 RELATING TO THIS PARTICUALR CASE WHICH WILL BE USED TO SUPPORT
                                 VALIDITY
                          SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description

DAM/EFF	DAMAGE EFFECTS	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
		          LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER
		PURPOSE OF DATA: WRITE THE DAMAGE EFFECTS DATA TO LSAR RECORD B1, CARD B14, BLOCK 6. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD. DAMAGE EFFECTS DATA SHALL INCLUDE LOCAL, NEXT HIGHER LEVEL, AND END EFFECTS.
		SOURCE OF DATA: PROCESS 301.2.4.1.4A8 (DETERMINE DAMAGE EFFECTS)

DAM/MOD	DAMAGE MODE	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
		          LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
		          LCN - LOGISTIC CONTROL NUMBER
		PURPOSE OF DATA: WRITE TO LSAR RECORD B1, CARD B13, BLOCK 6, THE DAMAGE MODES DATA. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER (LCN) LOCATED IN THE FIRST BLOCK OF THE SAME LSAR CARD. DAMAGE MODE DATA SHALL HAVE ANALYZED AT LEAST THE FOLLOWING DAMAGE CONDITIONS:
		    a. PENETRATION
		    b. SEVERED
		    c. SHATTERED, CRACKED
		    d. JAMMED
		    e. DEFORMED
		    f. IGNITED, DETONATED
		    g. BURNED OUT (I.E., ELECTRICAL OVERLOAD)
		    h. BURN THROUGH (I.E., THREAT CAUSED FIRE)
		SOURCE OF DATA: PROCESS 301.2.4.1.4A7 (DETERMINE DAMAGE MODES)

DMEA/DTA	DMEA DATA	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
		          FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
		          LCN - LOGISTIC CONTROL NUMBER
		PURPOSE OF DATA: TRANSPORT THE COMPLETED DMEA WORKSHEET TO THE FMECA FINAL REPORT CONSOLIDATION. THE DATA SHALL CONTAIN ALL OF THE FOLLOWING:
		    a. IDENTIFICATION NUMBER (LCN)
		    b. ITEM/FUNCTIONAL IDENTIFICATION
		    c. FUNCTION
		    d. FAILURE MODES AND CAUSES
		    e. MISSION PHASE/OPERATIONAL MODE
		    f. SEVERITY CLASSIFICATION
		    g. DAMAGE MODE
		    h. DAMAGE EFFECTS
		        1. LOCAL EFFECTS
		        2. NEXT HIGHER LEVEL
		        3. END EFFECTS
		    i. REMARKS
		THE DATA SHALL ALSO CONTAIN A CRITICAL COMPONENTS LISTING DEVELOPED BY THE ANALYST IN PROCESS 301.2.4.1.4A5 (IDENTIFY CRITICAL COMPONENTS).
		SOURCE OF DATA: DMEA ANALYSIS (PROCESS 301.2.4.1.4)

Name	Label	Description

DMEA/PLAN   DMEA   ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                        PLAN

                                     PURPOSE OF DATA: SUPPLY THE ANALYST WITH PLAN FOR COMPLETING THE DMEA
                                     FOR THE DEVELOPED WEAPON SYSTEM. THE WEAPON SYSTEM REQUIRES A NEW
                                     EVALUATION DUE TO CHANGES IT HAS UNDERGONE, OR CHANGES TO THE THREAT
                                     ENCOUNTERED.
                                     SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS

DMEA/WKST/DTA   DMEA   ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS
                        WORKSHEET   LCN - LOGISTIC CONTROL NUMBER
                        DATA

                                     PURPOSE OF DATA: TRANSPORT DMEA DATA THROUGHOUT THE WORKSHEET WITH THE
                                     INTENTION OF ADDING NEW DATA, EDITING OLD DATA, AND INFORMING THE
                                     ANALYST OF THE DATA ALREADY ENTERED. THE DMEA WORKSHEET DATA MAY
                                     CONTAIN ANY OF THE FOLLOWING:
                                          a. IDENTIFICATION NUMBER (LCN)
                                          b. ITEM/FUNCTIONAL IDENTIFICATION
                                          c. FUNCTION
                                          d. FAILURE MODES AND CAUSES
                                          e. MISSION PHASE/OPERATIONAL MODE
                                          f. SEVERITY CLASSIFICATION
                                          g. DAMAGE MODE
                                          h. DAMAGE EFFECTS
                                               1. LOCAL EFFECTS
                                               2. NEXT HIGHER LEVEL
                                               3. END EFFECTS
                                          i. REMARKS
                                        THE DMEA WORKSHEET DATA MAY ALSO CONTAIN A CRITICAL COMPONENTS LIST
                                     DEVELOPED IN PROCESS 301.2.4.1.4A5 (IDENTIFY CRITICAL COMPONENTS).
                                     SOURCE OF DATA: DMEA ANALYSIS (PROCESS 301.2.4.1.4)

DMI   DAMAGE   ACRONYMS: DMEA - DAMAGE MODE EFFECTS ANALYSIS
                        MODE   LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
                        INDICATOR

                                     PURPOSE OF DATA: PROVIDE THE LSAR WITH THE DMEA INDICATOR VALUE
                                     NECESSARY FOR THE AUTOMATED LSAR PROCESS.
                                     SOURCE OF DATA: PROCESS 301.2.4.1.4A10 (DETERMINE DAMAGE MODE
                                                      INDICATOR)

ECP/ENG/DTA   ECP ENGNRNG ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                        DATA
                                     PURPOSE OF DATA: PROVIDE THE ANALYST WITH ENGINEERING DATA NEEDED TO
                                     EVALUATE A DEVELOPED SYSTEM'S DMEA ANALYSIS. THE DATA WILL DESCRIBE THE
                                     SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND
                                     PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA
                                     WILL CONTAIN EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS. THIS DATA
                                     WILL IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM
                                     FUNCTION.
                                     SOURCE OF DATA: ENGINEERING CHANGES PROPOSAL

Name	Label	Description
EFF/OP/DTA	EFFECTIVE OPERATIONS DATA	ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST REGARDING CHANGES IN THE EFFECTIVENESS OF THE DEVELOPED SYSTEMS GIVEN THE THREAT REASSESSMENT. SOURCE OF DATA: PROCESS 301.2.4.1.4A6 (EVALUATE EFFECTIVE OPERATIONS IN A HOSTILE ENVIRONMENT)
FME/DTA	FMEA DATA	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN THE DATA BANK: A. IDENTIFICATION NUMBER (LCN) B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE) C. FUNCTION D. FAILURE MODES AND CAUSES E. MISSION PHASE/OPERATIONAL MODE F. FAILURE EFFECTS a. LOCAL EFFECTS b. NEXT HIGHER LEVEL c. END EFFECTS G. FAILURE DETECTION MEANS H. COMPENSATING PROVISIONS I. SEVERITY CLASS J. REMARKS SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)
ID#	IDENTIFICTN NUMBER	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER ALC - ALTERNATE LOGISTIC CONTROL NUMBER PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/ FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSER THE IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA, TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN (MIL-STD-1388-2). SOURCE OF DATA: CODING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS 301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL ATTRIBUTES) IN THE FMEA
MIL-STD-1388	MIL-STD-1388	ACRONYMS: LSA - LOGISTIC SUPPORT ANALYSIS PURPOSE OF DATA: SUPPLY THE ANALYST WITH PROCEDURES FOR DEVELOPING ASSOCIATED LSA TASKS AND THE LSA TASKS LISTING. SOURCE OF DATA: POLICY FILES

Name	Label	Description

NEW/SYS/DMEA INITIATE DMEA FOR A NEW SYSTEM

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: INITIATE THE DMEA FOR A NEWLY DEVELOPED SYSTEM
SOURCE OF DATA: PROCESS 301.2.4.1.4A0

OLD/SYS/DMEA INITIATE DMEA FOR RE-EVALUATE OLDER SYSTEM

ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS

PURPOSE OF PROCESS: INITIATE THE DMEA FOR AN OLD SYSTEM BEING RE-EVALUATED FOR NEW THREATS.
SOURCE OF DATA: PROCESS 301.2.4.1.4A0

RET/PRG RETROFIT PROGRAM

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: PROVIDE THE ANALYST WITH DEFINITIONS OF OPERATIONAL AND
ENVIRONMENTAL STRESSES THAT THE DEVELOPED SYSTEM IS EXPECTED TO UNDERGO,
INCLUDING FAILURE DEFINITIONS. THE DATA SHALL ALSO CONTAIN TRADE-OFF
STUDY REPORTS WHICH IDENTIFY AREAS OF MARGINAL AND STATE-OF-THE-ART
DESIGN, AND EXPLAIN ANY DESIGN COMPROMISES AND OPERATING RESTRAINTS
AGREED UPON.
SOURCE OF DATA: ENGINEERING CHANGES PROPROSAL

SURV/DTA SURVIVABLTY DATA

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE SURVIVABILITY ASSESSMENT
OF THE DEVELOPED SYSTEM. THE DEVELOPED SYSTEM MAY BE UNDERGOING A
RETROFIT PROGRAM OR REEVALUATION FOR A NEWLY DEVELOPED THREAT.
SOURCE OF DATA: PROCESS 301.2.4.1.4A4 (EVALUATE TOTAL SYSTEM
                          SURVIVABILITY)

SYS/DEF SYSTEM DEFINITION

ACRONYM:

PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM
INVESTIGATED.
     SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH
MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS
OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE
SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL
MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS,
OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART
FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES.
ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE
SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL
ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS.
SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
THR/MECH/DTA	THREAT MECHANISM DATA	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH ADEQUATE DATA PERTAINING TO THE SPECIFIED THREAT MECHANISM, ENABLING HIM TO PERFORM THE DMEA ANALYSIS. DATA SHALL PROVIDE THE CAPABILITIES OF THE THREAT MECHANISM AND POSSIBLE DAMAGE MODES THEY ARE ABLE TO PRODUCE. SOURCE OF DATA: CONTRACT REQUIREMENTS
THR/REASS	THREAT REASSESSMNT	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYST WITH ADEQUATE DATA ON THE NEW THREAT(S) THAT AFFECT OPERATIONS OF THE SYSTEM UNDER INVESTIGATION. DATA SHALL PROVIDE THE THREAT MECHANISM'S CAPABILITIES AND POSSIBLE DAMAGE MODES THOSE CAPABILITIES CAN PRODUCE. SOURCE OF DATA: ENGINEERING CHANGES PROPOSAL

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM. THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
            AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
            SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
            REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
            SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name   Label   Description
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                                 46. DI-R-7040, BURN-IN TEST REPORT
                                 47. DI-R-7033, RELIABILITY TEST PLAN
                                 48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
                                 49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
                                 50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
B1/13/1	REC B1 CARD B13 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON A LOGISTIC SUPPORT ANALYSIS RECORD (RECORD B1, CARD B13, BLOCK 1). THIS AREA HOLDS THE IDENTIFICATION NUMBER (LCN) REFERENCING THE MISSION PHASE AND OPERATIONAL MODE, AND FAILURE MODES AND CAUSES INFORMATION DEVELOPED IN THE FMEA ANALYSIS.
B1/13/3	REC B1 CARD B13 BLOCK 3	ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD FMEA - FAILURE MODE AND EFFECTS ANALYSIS THIS ENTITY PUTS THE FAILURE MODE INDICATOR DETERMINED IN THE FMEA INTO LSAR RECORD B1, CARD B13, BLOCK 3.
B1/13/6	REC B1 CARD B13 BLOCK 6	THIS ENTITY REFERS TO RECORD B1, CARD B13, BLOCK 8 ON THE LSAR CARD. THIS AREA HOLDS THE FAILURE MODES AND CAUSES INFORMATION DEVELOPED IN THE FMEA ANALYSIS.
B1/14/1	REC B1 CARD B14 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON AN LSAR CARD (RECORD B1, CARD B14, BLOCK 1). DATA WRITTEN TO THIS LOCATION IS THE IDENTIFICATION NUMBER (LOGISTIC CONTROL NUMBER) FOR THE RESPECTIVE DAMAGE/FAILURE EFFECTS DETERMINED IN THE FMECA.
B1/14/6	REC B1 CARD B14 BLOCK 6	THIS ENTITY REFERS TO AN LSAR LOCATION (RECORD B1, CARD B14, BLOCK 6). THIS RECORD SHALL CONTAIN THE DAMAGE/FAILURE EFFECTS DATA DETERMINED IN THE FMECA.
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
ECP	ENGINRNG CHANGE PROPOSAL	ENGINEERING CHANGE PROPOSALS (ECPs) WHICH CORRESPOND TO THOSE FUNCTIONAL AND/OR PHYSICAL CHANGES WHICH HAVE BEEN SUGGESTED TO MEET A NEW THREAT OR TO MAINTAIN AN ESTABLISHED LEVEL OF CAPABILITY NEEDED TO NEUTALIZE SOME OPPOSING MECHANISM. THEY WILL INCLUDE AT LEAST THE FOLLOWING INFORMATION FOR FMECA USE: 1. ECP ENGINEERING DATA 2. THREAT REASSESSMENT DATA 3. RETROFIT PROGRAM
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.

APPENDIX B
SUBTASK 301.2.4.1.4A8B

Name	Label	Description

301.2.4.1.4A8B1 DETERMINE   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                DAMAGE   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                EFFECT

                            PURPOSE OF DATA: IDENTIFY, EVALUATE, AND RECORD THE CONSEQUENCES OF
                            EACH ASSUMED DAMAGE MODE ON ITEM OPERATION, FUNCTION OR STATUS. DAMAGE
                            EFFECTS SHALL FOCUS ON THE SPECIFIC BLOCK DIAGRAM ELEMENT WHICH IS
                            AFFECTED BY THE DAMAGE CONDITION UNDER CONSIDERATION. THE DAMAGE MODE
                            UNDER CONSIDERATION MAY IMPACT SEVERAL INDENTURE LEVELS, IN ADDITION TO
                            THE INDENTURE LEVEL UNDER ANALYSIS.
                                LOCAL EFFECTS SHALL BE EVALUATED IN THIS PROCESS. LOCAL EFFECTS
                            CONCENTRATE SPECIFICALLY ON THE IMPACT AN ASSUMED DAMAGE MODE HAS ON
                            THE OPERATION AND FUNCTION OF THE ITEM IN THE INDENTURE LEVEL UNDER
                            CONSIDERATION. THE CONSEQUENCES OF EACH POSTULATED DAMAGE MODE
                            AFFECTING THE ITEM SHALL BE DESCRIBED ALONG WITH ANY SECOND-ORDER
                            EFFECTS WHICH RESULT. POTENTIAL CONDITIONS, WHERE THE DAMAGE OF ONE
                            ITEM RESULTS IN A CONDITIONAL FAILURE PROBABILITY OR EFFECT WHEN THE
                            SECOND ITEM IS CONSIDERED INDEPENDENTLY, SHALL BE IDENTIFIED. THE
                            PURPOSE OF DEFINING LOCAL EFFECTS IS TO PROVIDE A BASIS FOR EVALUATING
                            COMPENSATING PROVISIONS AND FOR RECOMMENDING SURVIVABILITY ENHANCEMENT.
                            IT IS POSSIBLE FOR THE LOCAL EFFECT TO BE THE DAMAGE MODE ITSELF.
                                ONCE DETERMINED, THE DATA SHALL BE WRITTEN TO THE DMEA WORKSHEET
                            AND A BUFFER PROCESS (301.2.4.1.4A8B3). IN THE BUFFER, THE DATA WILL BE
                            ORGANIZED WITH OTHER DAMAGE EFFECTS DATA AND RESPECTIVE IDENTIFICATION
                            CODING, AND SENT TO THE APPROPRIATE LSAR (RECORD B1, CARD B14,
                            COLUMN 6).
                            SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.4A8B2 DETERMINE   ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                NEXT HGHR   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                LEVEL
                DAM EFF   PURPOSE OF DATA: IDENTIFY, EVALUATE, AND RECORD THE CONSEQUENCES OF
                            EACH ASSUMED DAMAGE MODE ON ITEM OPERATION, FUNCTION, OR STATUS. DAMAGE
                            EFFECTS SHALL FOCUS ON THE SPECIFIC BLOCK DIAGRAM ELEMENT AFFECTED BY
                            THE DAMAGE CONDITION UNDER CONSIDERATION. THIS DAMAGE MODE MAY IMPACT
                            SEVERAL INDENTURE LEVELS IN ADDITION TO THE INDENTURE LEVEL UNDER
                            ANALYSIS. THE NEXT HIGHER LEVEL EFFECTS SHALL BE EVALUATED IN THIS
                            PROCESS.
                                NEXT HIGHER LEVEL EFFECTS CONCENTRATE ON THE IMPACT THAT AN ASSUMED
                            DAMAGE MODE HAS ON THE OPERATION AND FUNCTION OF THE ITEMS IN THE NEXT
                            HIGHER INDENTURE LEVEL. THE CONSEQUENCES OF EACH POSTULATED DAMAGE MODE
                            AFFECTING THE NEXT HIGHER INDENTURE LEVEL SHALL BE DESCRIBED.
                                ONCE DETERMINED, THE DATA SHALL BE WRITTEN TO THE DMEA WORKSHEET
                            AND A BUFFER PROCESS (301.2.4.1.4A8B3). IN THE BUFFER, DATA WILL BE
                            ORGANIZED WITH OTHER LEVEL DAMAGE EFFECTS DATA AND RESPECTIVE
                            IDENTIFICATION CODING, AND SENT TO THE APPROPRIATE LSAR (RECORD B1, CARD
                            B14, COLUMN 6).
                            SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description
301.2.4.1.4A8B3	DETERMINE END DAMAGE EFFECT	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
		FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: IDENTIFY, EVALUATE, AND RECORD THE CONSEQUENCES OF
EACH ASSUMED DAMAGE MODE ON ITEM OPERATION, FUNCTION OR STATUS. DAMAGE
EFFECTS SHALL FOCUS ON THE SPECIFIC BLOCK DIAGRAM ELEMENT WHICH IS
AFFECTED BY THE DAMAGE CONDITION UNDER CONSIDERATION. THIS DAMAGE MODE
MAY IMPACT SEVERAL INDENTURE LEVELS IN ADDITION TO THE INDENTURE LEVEL
UNDER ANALYSIS; END EFFECTS SHALL BE EVALUATED IN THIS PROCESS.

END EFFECTS EVALUATE AND DEFINE THE TOTAL IMPACT AN ASSUMED DAMAGE
MODE HAS ON THE OPERATION, FUNCTION, OR STATUS OF THE UPPERMOST SYSTEM.
THE EFFECT OF EACH DAMAGE MODE UPON THE ESSENTIAL FUNCTION(S) AFFECTING
THE SYSTEMS' OPERATING AND MISSION COMPLETION CAPABILITY SHALL BE
DETERMINED.

THE END EFFECT DESCRIBED MAY BE THE RESULT OF A DOUBLE FAILURE. FOR
EXAMPLE, FAILURE OF A SAFETY DEVICE MAY RESULT IN A CATASTROPHIC END
EFFECT ONLY IF THE PRIME FUNCTION GOES BEYOND THE LIMIT FOR WHICH THE
SAFETY DEVICE IS SET AND THE SAFETY DEVICE ALSO FAILS. THOSE END
EFFECTS RESULTING FROM A DOUBLE FAILURE SHALL BE INDICATED ON THE DMEA
WORKSHEET.

ONCE DETERMINED, DATA SHALL BE WRITTEN TO THE DMEA WORKSHEET AND
COLLECTED WITH OTHER DAMAGE EFFECTS FOR TRANSFERRAL TO LSAR RECORD B1,
CARD B14, COLUMN 6, ACCOMPANIED BY ITS RESPECTIVE IDENTIFICATION
CODING.

SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-1388-2A

Name	Label	Description

D/L/L/E

LOCAL
LEVEL
DAMAGE
EFFECTS

ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

PURPOSE OF DATA: WRITE THE LOCAL LEVEL DAMAGE EFFECTS DATA TO A BUFFER
PROCESS, LATER TO BE WRITTEN TO THE APPROPRIATE LSAR RECORD. ONCE
ASSEMBLED WITH THE NEXT HIGHER LEVEL AND TOP (END) LEVEL DAMAGE EFFECTS,
THE LOCAL EFFECTS SHALL BE WRITTEN TO LSAR RECORD B1, CARD B14, BLOCK 6.
THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION
NUMBER LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.4A8B1 (DETERMINE LOCAL DAMAGE
                          EFFECTS)

D/N/H/L/E

NEXT HIGHER
LEVEL DAMAGE
EFFECTS

ACRONYMS: LSAR - LOGISTIC SUPPORT ANALYSIS RECORD

PURPOSE OF DATA: WRITE THE NEXT HIGHER LEVEL DAMAGE EFFECTS INTO A
BUFFER PROCESS WHERE IT WILL BE SENT TO THE APPROPRIATE LSAR RECORD.
ONCE ASSEMBLED WITH THE LOCAL AND TOP (END) LEVEL DAMAGE EFFECTS, THE
DATA WILL BE SENT TO LSAR RECORD B1, CARD B14, BLOCK 6. THIS DATA WILL
BE WRITTEN ALONGSIDE THE APPROPRIATE IDENTIFICATION NUMBER LOCATED IN
BLOCK 1 OF THE SAME LSAR CARD.
SOURCE OF DATA: PROCESS 301.2.4.1.4A8B2

DAM/EFF

DAMAGE
EFFECTS

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
               LSAR - LOGISTIC SUPPORT ANALYSIS RECORD
               LCN - LOGISTIC CONTROL NUMBER
PURPOSE OF DATA: WRITE THE DAMAGE EFFECTS DATA TO LSAR RECORD B1,
CARD B14, BLOCK 6. THE DATA SHALL BE WRITTEN ALONGSIDE THE APPROPRIATE
IDENTIFICATION NUMBER (LCN) LOCATED IN BLOCK 1 OF THE SAME LSAR CARD.
DAMAGE EFFECTS DATA SHALL INCLUDE LOCAL, NEXT HIGHER LEVEL, AND END
EFFECTS.
SOURCE OF DATA: PROCESS 301.2.4.1.4A8 (DETERMINE DAMAGE EFFECTS)

Name	Label	Description
DMEA/WKST/DTA	DMEA WORKSHEET DATA	ACRONYMS: DMEA - DAMAGE MODES AND EFFECTS ANALYSIS LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSPORT DMEA DATA THROUGHOUT THE WORKSHEET WITH THE
INTENTION OF ADDING NEW DATA, EDITING OLD DATA, AND INFORMING THE
ANALYST OF THE DATA ALREADY ENTERED. THE DMEA WORKSHEET DATA MAY
CONTAIN ANY OF THE FOLLOWING:

> a. IDENTIFICATION NUMBER (LCN)
> b. ITEM/FUNCTIONAL IDENTIFICATION
> c. FUNCTION
> d. FAILURE MODES AND CAUSES
> e. MISSION PHASE/OPERATIONAL MODE
> f. SEVERITY CLASSIFICATION
> g. DAMAGE MODE
> h. DAMAGE EFFECTS
>> 1. LOCAL EFFECTS
>> 2. NEXT HIGHER LEVEL
>> 3. END EFFECTS
> i. REMARKS

THE DMEA WORKSHEET DATA MAY ALSO CONTAIN A CRITICAL COMPONENTS LIST
DEVELOPED IN PROCESS 301.2.4.1.4A5 (IDENTIFY CRITICAL COMPONENTS).
SOURCE OF DATA: DMEA ANALYSIS (PROCESS 301.2.4.1.4)

Name	Label	Description
ID#	IDENTIFICTN NUMBER	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS LSAR - LOGISTIC SUPPORT ANALYSIS RECORD LCN - LOGISTIC CONTROL NUMBER ALC - ALTERNATE LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: INFORM THE ANALYST OF THE IDENTITY OF THE ITEM/
FUNCTION/PHASE IN RELATION TO THE OTHER PROCESS DATA. TRANSER THE
IDENTIFICATION NUMBER (LCN AND ALC), ALONG WITH THE OTHER PROCESS DATA,
TO THE APPROPRIATE LSAR RECORD AND CARD. THE FORMAT OF THE
IDENTIFICATION NUMBER WILL BE DETERMINED IN THE FMECA PLAN
(MIL-STD-1388-2).
SOURCE OF DATA: ___ ___ING SYSTEM IS DETERMINED IN THE FMECA PLAN, BUT
                     THE IDENTIFICATION NUMBER IS ASSIGNED IN PROCESS
                     301.2.4.1.1A1B2 (CATEGORIZE PARTS BY PHYSICAL
                     ATTRIBUTES) IN THE FMEA

Name	Label	Description
B1/14/1	REC B1 CARD B14 BLOCK 1	THIS ENTITY REFERS TO A LOCATION ON AN LSAR CARD (RECORD B1, CARD B14, BLOCK 1). DATA WRITTEN TO THIS LOCATION IS THE IDENTIFICATION NUMBER (LOGISTIC CONTROL NUMBER) FOR THE RESPECTIVE DAMAGE/FAILURE EFFECTS DETERMINED IN THE FMECA.
B1/14/6	REC B1 CARD B14 BLOCK 6	THIS ENTITY REFERS TO AN LSAR LOCATION (RECORD B1, CARD B14, BLOCK 6). THIS RECORD SHALL CONTAIN THE DAMAGE/FAILURE EFFECTS DATA DETERMINED IN THE FMECA.

APPENDIX B
SUBTASK 301.2.4.1.5A

Name	Label	Description

301.2.4.1.5A1 COORDINTE ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
FMECA W/

REL & OTH PURPOSE OF PROCESS: PLAN THE FMECA TO COORDINATE WITH OTHER PROGRAM
PROG ELEM ELEMENTS. THE COINCIDENT PERFOMANCE AND USE OF THE FMECA BY RELIABILITY
AND OTHER PROGRAM ELEMENTS SHALL BE IDENTIFIED IN THE FMECA PLAN.
CONSIDERATION SHALL BE GIVEN TO REQUIREMENTS TO PERFORM AND USE
THE FMECA IN SUPPORT OF A RELIABILITY PROGRAM, IN ACCORDANCE WITH
MIL-STD-785, MAINTAINABILITY PROGRAM; MIL-STD-470, SURVIVABILITY AND
VULNERABILITY PROGRAM; MIL-STD-2072, LOGISTIC SUPPORT ANALYSIS;
MIL-STD-2080, FAULT DIAGNOSIS ANALYSIS; AND IN GENERAL ACCORDANCE WITH
MIL-STD-1591 AND OTHER CONTRACTUAL PROVISIONS. THE ANALYST SHALL
IDENTIFY THE PROGRAM ORGANIZATION RESPONSIBLE FOR PERFORMING THE FMECA
AND SHOW HOW THE FMECA RESULTS WILL BE USED BY OTHER ORGANIZATIONAL
ELEMENTS TO PRECLUDE DUPLICATION OF EFFORT.
SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.5A2   DEVELOP ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
GROUND

RULES & PURPOSE OF PROCESS: DEVELOP GROUND RULES AND ANALYSIS ASSUMPTIONS, AND
ASSUMPTNS INCLUDE THEM IN THE FMECA PLAN. THE GROUND RULES SHALL IDENTIFY THE
FMECA APPROACH (E.G., HARDWARE, FUNCTIONAL, OR COMBINATION), AND THE
LOWEST INDENTURE LEVEL TO BE ANALYZED. THEY SHALL INCLUDE A GENERAL
STATEMENT OF WHAT CONSTITUTES A FAILURE OF THE ITEM IN TERMS OF
PERFORMANCE CRITERIA AND ALLOWABLE LIMITS. EVERY EFFORT SHOULD BE MADE
TO IDENTIFY AND RECORD ALL GROUND RULES AND ANALYSIS ASSUMPTIONS PRIOR
TO INITIATION OF THE ANALYSIS; HOWEVER, GROUND RULES AND ANALYSIS
ASSUMPTIONS MAY BE ADDED FOR ANY ITEM IF REQUIREMENTS CHANGE.
ADDITIONAL GROJND RULES AND ANALYSIS ASSUMPTIONS SHALL BE DOCUMENTED
AND SEPARATELY IDENTIFIED FOR INCLUSION IN THE FMECA REPORT.
SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.5A3   IDENTIFY ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
FAILURE

RATE DATA PUPROSE OF PROCESS: DETERMINE FAILURE RATE DATA SOURCES FOR THE
SOURCES CRITICALITY ANALYSIS. THE FAILURE RATE DATA SOURCE SHALL BE THE SAME AS
THAT USED FOR THE OTHER RELIABILTY AND MAINTAINABILITY ANALYSES REQUIRED
BY CONTRACT. MIL-HDBK-217 SHALL BE THE PRIMARY SOURCE OF FAILURE RATE
DATA FOR ELECTRONIC PARTS. FAILURE RATE DATA FOR PARTS NOT COVERED BY
MIL-HDBK-217 SHALL BE SELECTED FROM ALTERNATIVE DATA SOURCES, HISTORICAL
FILES OF ENGINEERING FOR SIMILAR ITEMS/EQUIPMENT/SYSTEMS, SAMPLE DATA
COLLECTION SYSTEM, AND OTHER INDUSTRIAL/COMMERCIAL/SERVICES FAILURE DATA
BANKS. FAILURE RATE DATA SOURCES SHALL BE IDENTIFIED IN THE FMECA PLAN
AND SHALL BE APPROVED BY THE PROCURING ACTIVITY PRIOR TO USE.
SOURCE OF DATA: MIL-STD-1629A

Name	Label	Description
301.2.4.1.5A4	IDENTIFY CODING SYSTEM	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

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                                 LSAR  - LOGISTIC SUPPORT ANALYSIS RECORD
                                 LCN   - LOGISTIC CONTROL NUMBER CODE
                                 ALC   - ALTERNATE LOGISTIC CONTROL NUMBER CODE
                                 CSC   - CARD SEQUENCE CODE
                                 UOC   - USER OWN CODE
```

PURPOSE OF DATA: IDENTIFY THE CODING SYSTEM TO BE USED THROUGHOUT THE
FMECA ANALYSIS. FOR CONSISTENT IDENTIFICATION OF SYSTEM FUNCTIONS AND
EQUIPMENT AND FOR TRACKING FAILURE MODES, THE CONTRACTOR SHALL ADHERE TO
THE CODING SYSTEM USED IN THE LSAR (LOGISTIC CONTROL NUMBER OF
MIL-STD-1388-2).

THE LCN IS AN IDENTIFICATION SYSTEM DEVELOPED THROUGH THE
HARDWARE BREAKDOWN SEQUENCE OF THE SYSTEM UNDER INVESTIGATION. THERE
ARE FOUR SIMILIAR METHODS OF DEVELOPING THE LCN:

1. CLASSICAL LCN ASSIGNMENT METHOD
2. MODIFIED CLASSICAL LCN ASSIGNMENT METHOD
3. VERTICAL CLASSICAL LCN ASSIGNMENT METHOD
4. SEQUENTIAL ASSIGNMENT

IN ADDITION TO THE LCN, THE ALC FURTHER IDENTIFIES ALTERNATE
DESIGN CONCEPTS. USING THE SAME LCN AND THE UOC, CONFIGURATION
RELATIONSHIPS MAY BE IDENTIFIED. THESE CODES WILL BE UTILIZED IN THE
DEVELOPMENT OF THE LSAR.

A COMPLETE DEFINITION OF PROCEDURES FOR THE DEVELOPMENT OF THE
LCN IS LISTED IN APPENDIX D OF MIL-STD-1388-2. IN GENERAL, THE LCN IS
DEFINED UTILIZING AN 11 DIGIT ALPHANUMERIC CODE. EACH DIGIT (OR GROUP
OF DIGITS) OF THE CODE REPRESENTS DIFFERENT INDENTURE LEVELS FOR THE
SYSTEM. IF THE MAXIMUM NUMBER OF ITEMS FOR A SYSTEM IS LESS THAN OR
EQUAL TO 36, THEN ONE ALPHANUMERIC CHARACTER WOULD SUFFICE; IF THE
NUMBER IS GREATER THAN 36 BUT LESS THAN 1296, THEN TWO WOULD SUFFICE,
AND SO ON.

ADVANCED PLANNING IN THE ASSIGNMENT OF THESE LCNS WILL SAVE TIME
AND EFFORT LATER. SPACES SHOULD BE LEFT BETWEEN NUMBERS EARLY IN DESIGN
TO AVOID HAVING TO SEQUENCE AT A LATER TIME DUE TO THE ADDITION OF NEW
ITEMS TO THE SYSTEM. THE ABOVE GUIDANCE SHOULD BE CONSIDERED PRIOR TO
ASSIGNING THE LCNS

BASED UPON THE ITEM/EQUIPMENT/SYSTEM BREAKDOWN STRUCTURE OF
MIL-STD-881, OR OTHER SIMILAR UNIFORM NUMBERING SYSTEM, CODING SHALL BE
CONSISTENT WITH THE RELIABILITY AND FUNCTIONAL BLOCK DIAGRAM NUMBERING
SYSTEM TO PROVIDE COMPLETE VISIBILITY OF EACH FAILURE MODE AND ITS
RELATIONSHIP TO THE SYSTEM. THE CONTRACTOR SHALL DESCRIBE THE CODING
SYSTEM TO BE USED IN THE FMECA PLAN.
SOURCE OF DATA: MIL-STD-1629A, MIL-STD-881, MIL-STD-1388-2A

Name	Label	Description

301.2.4.1.5A5   IDENTIFY   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                 FMECA   LSAR - LOGISTIC SUPPORT RECORD
                 WORKSHEET
                 FORMAT   PURPOSE OF PROCESS: WORKSHEET FORMATS, WHICH ORGANIZE AND DOCUMENT
                            THE FMECA ANALYSIS METHODS, SHALL INCLUDE INFORMATION SHOWN IN THE
                            EXAMPLE FORMATS IN FIGURES 101.3 (FAILURE MODE AND EFFECTS ANALYSIS),
                            102.1 (CRITICALITY ANALYSIS), 103.1 (FMECA-MAINTAINABILITY ANALYSIS),
                            AND 104.1 (DAMAGE MODE AND EFFECTS ANALYSIS) CONTAINED WITHIN
                            MIL-STD-1629A.
                               THE SPACES AVAILABLE FOR DATA ENTRY SHALL BE THE SAME AS THE LSAR,
                            WHERE APPLICABLE. THE INITIAL INDENTURE LEVEL OF ANALYSIS SHALL BE
                            IDENTIFIED (ITEM NAME) ON EACH WORKSHEET, AND EACH SUCCESSIVE INDENTURE
                            LEVEL SHALL BE DOCUMENTED ON A SEPARATE WORKSHEET OR GROUP OF
                            WORKSHEETS. A SAMPLE OF THE CONTRACTOR'S WORKSHEET FORMATS SHALL BE
                            INCLUDED WITH THE FMECA PLAN.
                            SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.5A6   WRITE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                 FMECA
                 PLAN   PURPOSE OF PROCESS: WRITE A FUNCTIONAL NARRATIVE DESCRIBING THE
                            ANALYST'S PROCEDURES FOR INITIAL IMPLEMENTATION OF THE FMECA DURING
                            CONCEPT FORMULATION. UPDATE THE FMECA TO REFLECT DESIGN CHANGES, AND
                            USE OF ANALYSIS RESULTS TO PROVIDE DESIGN GUIDANCE. SAMPLE WORKSHEET
                            FORMATS, GROUND RULES, ANALYSIS ASSUMPTIONS, IDENTIFICATION OF THE
                            LOWEST INDENTURE LEVEL OF ANALYSIS, CODING SYSTEM DESCRIPTION, FAILURE
                            DEFINITIONS, AND IDENTIFICATION OF COINCIDENT USE OF THE FMECA BY THE
                            CONTRACTOR'S RELIABILITY ORGANIZATION AND OTHER ORGANIZATION ELEMENTS
                            SHALL BE INCLUDED.
                            SOURCE OF DATA: MIL-STD-1629A

Name	Label	Description
ACQ/SCH	ACQUISITION SCHEDULE	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE SCHEDULED ACQUISITION OF OTHER PROGRAM ELEMENTS RELATED TO THE FMECA ANALYSIS. SOURCE OF DATA: CONTRACT REQUIREMENTS
APR/METH	APPROACH METHODOLOGY	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYSIS APPROACH METHODOLOGY. THE DATA SHALL CONTAIN A STATEMENT OF APPROACH TECHNIQUE (FUNCTIONAL, HARDWARE, OR COMBINATION), AND ANY ASSUMPTIONS MADE. SOURCE OF DATA: 301.2.4.1.5A2B1 (IDENTIFY APPROACH METHODOLOGY)
CD/NUM/SYS	CODE NUMBERING SYSTEM	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: SUPPLY THE ANALYST WITH A NUMBERING SYSTEM SUGGESTED BY THE PROCURING ACTIVITY FOR THE FMECA APPLICATION. THE SYSTEM SHOULD MATCH THAT OF THE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. THE NUMBERING SYSTEM SHALL CONSISTENT WITH THAT OF MIL-STD-1388-2, THE LOGISTIC CONTROL NUMBER. SOURCE OF DATA: POLICY FILES
COD/SYS	CODING SYSTEM	ACRONYMS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: PROVIDE A SYSTEM THAT HAS CONSISTENT IDENTIFICATION OF INVESTIGATED SYSTEM FUNCTIONS AND EQUIPMENT FOR TRACKING FAILURE MODES. ANALYST SHALL ADHERE TO THE CODING SYSTEM OF MIL-STD-1388-2 (LCN), BASED ON THE HARDWARE BREAKDOWN STRUCTURE OF MIL-STD-881, WORK UNIT CODE NUMBERING SYSTEM OF MIL-STD-780, OR OTHER SIMILAR UNIFORM SYSTEMS. THE CODING SYSTEM SHALL BE CONSISTENT WITH THE RELIABILITY AND FUNCTIONAL BLOCK DIAGRAM NUMBERING SYSTEM TO PROVIDE COMPLETE VISIBILITY OF EACH FAILURE MODE AND ITS RELATIONSHIP TO THE SYSTEM. SOURCE OF DATA: PROCESS 301.2.4.1.5A4 (IDENTIFY CODING SYSTEM)
DES/DAT/DRWGS	DESIGN DATA & DRAWINGS	ACRONYMS: PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: SYSTEM DETAIL DESIGNER
DI-R-7086	DI-R-7086 FMECA PLAN REPORT	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: SUPPLY THE ANALYST WITH THE ACCEPTED FORMAT FOR PRODUCING A FMECA PLAN REPORT. SOURCE OF DATA: POLICY FILES

Name	Label	Description

FAIL/CRIT — FAILURE CRITERIA

ACRONYMS:

PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY.
SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)

FM/PLN/DTA — FMECA PLAN DATA

ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

PURPOSE OF DATA: REVEAL THE FMECA PLAN. THE PLAN SHALL CONTAIN SAMPLE WORKSHEET FORMATS, GROUND RULES, ANALYSIS ASSUMPTIONS, IDENTIFICATION OF THE LOWEST INDENTURE LEVEL OF ANALYSIS, CODING SYSTEM DESCRIPTION, FAILURE DEFINITIONS, AND IDENTIFICATION OF COINCIDENT USE OF THE FMECA BY RELIABLITY ORGANIZATIONS AND OTHER ORGANIZATION ELEMENTS.
SOURCE OF DATA: PROCESS 301.2.4.1.5A6 (WRITE FMECA PLAN)

IND/LVL — INDENTURE LEVEL

ACRONYMS:

PURPOSE OF DATA: PROVIDE THE ANALYST WITH DETAILED BREAKDOWN OF THE SYSTEM TO BE INVESTIGATED. THE INDENTURE LEVEL APPLIES TO THE SYSTEM HARDWARE OR FUNCTIONAL LEVEL AT WHICH FAILURES ARE POSTULATED. UNLESS OTHERWISE SPECIFIED, THE ANALYST SHALL ESTABLISH THE LOWEST INDENTURE LEVEL OF ANALYSIS.
SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)

MIL-STD-1629 — MIL-STD-1629 PROCEDURES FOR PERFORMING A FMECA

ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

PURPOSE OF DATA: AID THE ANALYST IN DETERMINING FORMATS FOR THE FMECA ANALYSIS. THE DATA COMES IN THE FORM OF A MILITARY STANDARD PAMPHLET ENTITLED: "PROCEDURES FOR PERFORMING A FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS".
SOURCE OF DATA: POLICY FILES

REC/F/R/D/S — RECOMMENDED FAILURE RATE DATA SOURCES

ACRONYMS:

PURPOSE OF DATA: INFORM THE ANALYST ABOUT THE FAILURE RATE DATA SOURCE RECOMMENDED BY THE PROCURING ACTIVITY. DATA MAY BE FOUND IN HANDBOOKS, REPORTS, TEST AND/OR OPERATIONAL DATA, OR OTHER REFERENCE MATERIALS.
SOURCE OF DATA: PROCURING ACTIVITY

REP/MOD/DTA — REPLACEABLE MODULE IN SYSTEM DATA

ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
           FMEA - FAILURE MODE AND EFFECTS ANALYSIS

PURPOSE OF DATA: INFORM THE ANALYST THAT THE IDENTIFIED ITEM/ITEMS ARE REPLACEABLE AND REQUIRE A SEPARATE FMEA ANALYSIS. DATA IN THIS FLOW SHALL ACT AS A PROMPT FOR A NEW FMECA PLAN TO BE DEVELOPED, AND THUS A NEW FMEA ANALYSIS FOR THE MODULE.
SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES AND PHASES)

B-136

Name	Label	Description
SUG/COD/SYS	SUGGESTED CODING SYSTEM	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST AS TO THE PROCURING ACTIVITY'S CHOICE OF CODING SYSTEM FOR THE FMECA PROCESS. SOURCE OF DATA: PROCURING ACTIVITY REQUIREMENTS
SUG/F/R/D/S	SUGGESTED FAILURE RATE DATA SOURCES	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: INFORM PROCURING ACTIVITY ABOUT THE FAILURE RATE DATA SOURCE(S) SUGGESTED BY THE ANALYST FOR COMPLETING THE FMECA. SUGGESTED SOURCES ARE WRITTEN INTO THE FMECA PLAN. THE PROCURING ACTIVITY MUST APPROVE THE SOURCE(S) BEFORE THEY CAN BE USED IN THE CRITICALITY ANALYSIS. SOURCE(S) MAY BE FOUND IN HANDBOOKS, REPORTS, TEST AND/OR OPERATIONAL DATA, OR OTHER REFERENCE MATERIALS. SOURCE OF DATA: PROCESS 301.2.4.1.5A3 (IDENTIFY FAILURE RATE DATA SOURCES)
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION. INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED. SOURCE OF DATA: CONTRACT REQUIREMENTS
TIM/CO/DTA	TIMING COORDINATN DATA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: WRITE DATA TO THE FMECA PLAN PERTAINING TO THE COORDINATION OF THE FMECA WITH THE SYSTEM'S OTHER PROGRAM EFFORTS. THE COINCIDENT PERFORMANCE AND USE OF THE FMECA BY RELIABILITY AND OTHER PROGRAM ELEMENTS SHALL BE IDENTIFIED HEREIN. SOURCE OF DATA: 301.2.4.1.5A6 (COORDINATE FMECA WITH OTHER PROGRAM ELEMENTS)
TIM/PRMTR	TIME PARAMETERS	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST AS TO THE ACTUAL DATES OF RELATED PROGRAM ELEMENTS. SOURCE OF DATA: INVESTIGATED SYSTEM PROGRAM ELEMENTS

Name	Label	Description
WKST/FRMT	WORKSHEET FORMAT	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
		PURPOSE OF DATA: WRITE TO THE FMECA PLAN, THE SELECTED WORKSHEET FORMAT FOR EACH TASK INVOLVED IN THE FMEAA PROCESS. WORKSHEET FORMATS WILL BE AS IDENTIFIED IN MIL-STD-1629A.
		SOURCE OF DATA: PROCESS 301.2.4.1.5A5 (IDENTIFY FMECA WORKSHEET FORMAT)

Name	Label	Description
P/F	POLICY FILES	CONTAINS THOSE MILITARY PUBLICATIONS, DECISION PAPERS, MISSIONS & FUNCTIONS, ETC., NEEDED TO ESTABLISH THE LOGISTICAL SUPPORT AND REVIEW REQUIREMENTS OF THE ITEM/EQUIPMENT DEVELOPMENT PROGRAM.

THIS DATA STORE INCLUDES:

1. AR 700-127 ILS
2. MIL-STD 881A (FB)
3. MIL-STD 1388-1 LSA
4. MIL-STD 1388-2 LSAR
5. MIL-STD 152, TECH REVIEW GUIDELINES
6. DA PAM 700-28, ILS REVIEW GUIDELINES
7. MIL-STD 810, ENVIRONMENTAL TEST METHODS
8. MIL-STD 781, RELIABILITY DESIGN GUIDE
9. MIL-STD 2108, CLIMATIC EXTREMES FOR MIL EQUIPMENT
10. AR 70-38, ILS PREPARATION
11. MIL-STD 470, 471 MAINTAINABILITY STANDARDS
12. AMC PAM 700-4, LOGISTICS TECHNIQUES (WITH PALMAN)
13. DA PAM 700-28, INTEGRATED SUPPORT PROGRAM ASSESSMENT ISSUES
                AND CRITERIA
14. MIL-STD-780, CODING SYSTEM
15. MIL-STD-882, SYSTEM SAFETY PROGRAM REQUIREMENTS
16. MIL-STD-1629, PROCEDURES FOR FMECA
17. MIL-STD-756, RELIABILITY MODELING & PREDICTIONS
18. DI-S-3604, FUNCTIONAL FLOW DIAGRAM
19. MIL-M-24100B, FOMM
20. AR 725-50, REQUISITIONING, RECEIPT AND ISSUE SYSTEM
21. DI-R-7112, MAINTAINABILITY DEMONSTRATION TEST PLAN
22. DI-R-2129, MAINTAINABILITY DEMONSTRATION PLAN
23. DI-R-7113, MAINTAINABILITY DEMONSTRATION REPORT
24. DI-R-7109, MAINTAINABILITY ANALYSIS REPORT
25. DI-R-7105, DATA COLLECTION, ANALYSIS AND CORRECTIVE ACTION
                SYSTEM REPORTS
26. DI-R-7085, FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
                REPORT
27. DI-R-7110, MAINTAINABILITY DESIGN CRITERIA PLAN
28. DI-R-7107, MAINTAINABILITY ALLOCATIONS REPORT
29. DI-R-7106, MAINTAINABILITY MODELLING REPORT
30. DI-R-7108, MAINTAINABILITY PREDICTIONS REPORT
31. MIL-HDBK-472, MAINTAINABILITY PREDICTION
32. DI-R-7111, INPUTS TO THE DETAILED MAINTENANCE PLAN AND LOGISTICS
                SUPPORT ANALYSIS
33. DI-R-2130A, MAINTAINABILITY DEMONSTRATION REPORT
34. MIL-STD-785B, RELIABILITY PROGRAM FOR SYSTEMS AND EQUIPMENT
35. DI-R-7079, RELIABILITY PROGRAM PLAN
36. DI-R-7080, RELIABILITY STATUS REPORT
37. DI-R-7041, FAILURE SUMMARY AND ANALYSIS REPORT
38. DI-R-7081, RELIABILITY MATHEMATICAL MODEL(S)
39. DI-R-2114, RELIABILITY ALLOCATION REPORT
40. DI-R-7082, RELIABILITY PREDICTIONS REPORT
41. DI-R-1734, FAILURE MODES, EFFECTS, AND CRITICALITY REPORT
42. DI-R-2115A, FAILURE MODE AND EFFECT ANALYSIS REPORT
43. DI-R-7083, SNEAK CIRCUIT ANALYSIS REPORT
44. DI-R-7084, ELECTRONIC PARTS/CIRCUITS TOLERANCE ANALYSIS REPORT
45. DI-R-35011, CRITICAL ITEM CONTROL PLAN

Name	Label	Description
		46. DI-R-7040, BURN-IN TEST REPORT
		47. DI-R-7033, RELIABILITY TEST PLAN
		48. DI-R-7035, RELIABILITY TEST AND DEMONSTRATION PROCEDURES
		49. DI-R-7034, RELIABILITY TEST AND DEMONSTRATION REPORTS
		50. MIL-STD-965, PARTS CONTROL PROGRAM

Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
PROC/REQ	PROCURIN ACTIVITY REQMNTS	ACRONYMS: THIS ENTITY REFERS TO THE PROCURING ACTIVITY. IT IS CONSULTED WHEN PLANS OR OTHER ELEMENTS MUST BE APPROVED.
PROG/ELE	INVSTGTD SYSTEM DIAGRAM ELEMENTS	THIS ENTITY BRANCHES TO OTHER ELEMENTS (BESIDES FMECA) WHOSE DATA IS USED BY THE FMECA AND/OR WHO NEED DATA FROM THE FMECA ANALYSIS.
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

APPENDIX B
SUBTASK 301.2.4.1.5A2B

Name	Label	Description

301.2.4.1.5A2B1   IDENTIFY   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                  APPROACH

                  METHODLGY PURPOSE OF PROCESS: IDENTIFY THE APPROACH METHODOLOGY TO BE USED IN
                             PERFORMING THE FMECA ANALYSIS, I.E., THE FUNCTIONAL APPROACH OR THE
                             HARDWARE APPROACH. VARIATIONS IN DESIGN COMPLEXITY AND AVAILABILITY OF
                             DATA WILL GENERALLY DICTATE THE APPROACH TO BE USED.

                             THE HARDWARE APPROACH LISTS INDIVIDUAL HARDWARE ITEMS AND ANALYZES
                             THEIR POSSIBLE FAILURE MODES. THE FUNCTIONAL APPROACH RECOGNIZES THAT
                             EVERY ITEM IS DESIGNED TO PERFORM A NUMBER OF FUNCTIONS THAT CAN BE
                             CLASSIFIED AS OUTPUTS. THE OUTPUTS ARE LISTED AND THEIR FAILURE MODES
                             ANALYZED. FOR COMPLEX SYSTEMS, A COMBINATION OF APPROACHES MAY BE
                             CONSIDERED.

                             THE HARDWARE APPROACH IS USED WHEN HARDWARE ITEMS CAN BE UNIQUELY
                             IDENTIFIED FROM SCHEMATICS, DRAWINGS, AND OTHER ENGINEERING AND DESIGN
                             DATA. THIS APPROACH IS UTILIZED IN A PART LEVEL-UP FASHION (BOTTOM-UP
                             APPROACH); HOWEVER, IT CAN BE INITIATED AT ANY LEVEL OF INDENTURE AND
                             PROGRESS IN EITHER DIRECTION.

                             THE FUNCTIONAL APPROACH IS USED WHEN HARDWARE ITEMS CANNOT BE
                             UNIQUELY IDENTIFIED, OR WHEN SYSTEM COMPLEXITY REQUIRES ANALYSIS FROM
                             THE INITIAL INDENTURE LEVEL DOWNWARD THROUGH SUCCEEDING INDENTURE
                             LEVELS. THIS APPROACH IS UTILIZED IN AN INITIAL INDENTURE LEVEL-DOWN
                             FASHION (TOP-DOWN APPROACH); HOWEVER, IT CAN BE INITIATED AT ANY LEVEL
                             OF INDENTURE AND PROGRESS IN EITHER DIRECTION.

                             THE ANALYSIS APPROACH AND ANY ASSUMPTIONS MADE WITHIN SHALL BE
                             NOTED AND INCLUDED IN THE NARRATIVE DEVELOPED FOR THIS PROCESS.
                             SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.5A2B2   DETERMINE ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                  INDENTURE   LSA   - LOGISTIC SUPPORT ANALYSIS
                  LEVEL

                             PURPOSE OF PROCESS: IDENTIFY THE INDENTURE LEVELS TO BE INVESTIGATED.
                             THE INDENTURE LEVEL APPLIES TO THE SYSTEM HARDWARE OR FUNCTIONAL LEVEL
                             AT WHICH FAILURES ARE POSTULATED. UNLESS OTHERWISE SPECIFIED, THE
                             ANALYST SHALL ESTABLISH THE LOWEST INDENTURE LEVEL OF ANALYSIS USING THE
                             FOLLOWING GUIDELINES:

                             a. THE LOWEST LEVEL SPECIFIED IN THE LSA CANDIDATE LIST TO ASSURE
                                 COMPLETE INPUT FOR EACH LSA CANDIDATE.
                             b. THE LOWEST INDENTURE LEVEL AT WHICH ITEMS ARE ASSIGNED A
                                 CATASTROPHIC (CATEGORY I) OR CRITICAL (CATEGORY II) SEVERITY
                                 CLASSIFICATION.
                             c. THE SPECIFIED OR INTENDED MAINTENANCE AND REPAIR LEVEL FOR
                                 ITEMS ASSIGNED A MARGINAL (CATEGORY III) OR MINOR (CATEGORY
                                 IV) SEVERITY CLASSIFICATION CATEGORY.

                             THE INDENTURE LEVEL AND ANY ASSUMPTIONS MADE DURING THE EXECUTION
                             OF THIS PROCESS SHALL BE NOTED AND INCLUDED IN THE NARRATIVE FOR THIS
                             PROCESS.
                             SOURCE OF PROCESS: MIL-STD-1629A, MIL-STD-881

Name   Label   Description
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301.2.4.1.5A2B3 DETERMINE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                 FAILURE   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                 CRITERIA

                             PURPOSE OF PROCESS: DETERMINE FAILURE DEFINITIONS NEEDED FOR THE FMEA
                             ANALYSIS. THE ANALYST SHALL DEVELOP GENERAL STATEMENTS OF WHAT
                             CONSTITUTES A FAILURE OF EACH ITEM/EQUIPMENT/SYSTEM, AT EACH INDENTURE
                             LEVEL, IN TERMS OF REQUIRED PERFORMANCE PARAMETERS AND SPECIFIC
                             ALLOWABLE LIMITS FOR EACH SPECIFIC OUTPUT, AS ASSOCIATED WITH SELECTED
                             MISSION PHASES OR OPERATIONAL MODE. THE ANALYST'S GENERAL STATEMENTS
                             SHALL NOT CONFLICT WITH ANY FAILURE DEFINITIONS SPECIFIED BY THE
                             PROCURING ACTIVITY.
                                 THE FAILURE DEFINITION AND ANY ASSUMPTIONS MADE SHALL BE NOTED AND
                             RECORDED IN THE NARRATIVE DEVELOPED FOR THIS PROCESS.
                             SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
APR/METH	APPROACH METHODOLOGY	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: PROVIDE THE ANALYSIS APPROACH METHODOLOGY. THE DATA SHALL CONTAIN A STATEMENT OF APPROACH TECHNIQUE (FUNCTIONAL, HARDWARE, OR COMBINATION), AND ANY ASSUMPTIONS MADE. SOURCE OF DATA: 301.2.4.1.5A2B1 (IDENTIFY APPROACH METHODOLOGY)
DES/DAT/DRWGS	DESIGN DATA & DRAWINGS	ACRONYMS: PURPOSE OF DATA: IDENTIFY EACH ITEM AND ITEM CONFIGURATION THAT PERFORMS EACH SYSTEM FUNCTION. SYSTEM DESIGN DATA AND DRAWINGS SHOULD DESCRIBE THE SYSTEM'S INTERNAL AND INTERFACE FUNCTIONS, BEGINNING AT SYSTEM LEVEL AND PROGRESSING TO THE LOWEST INDENTURE LEVEL OF THE SYSTEM. DESIGN DATA SHOULD INCLUDE EITHER FUNCTIONAL BLOCK DIAGRAMS OR SCHEMATICS THAT FACILITATE CONSTRUCTION OF RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: SYSTEM DETAIL DESIGNER
FAIL/CRIT	FAILURE CRITERIA	ACRONYMS: PURPOSE OF DATA: PROVIDE GENERAL STATEMENTS OF WHAT CONSTITUTES FAILURE OF THE ITEM IN TERMS OF PERFORMANCE PARAMETERS AND ALLOWABLE LIMITS FOR EACH SPECIFIC OUTPUT. THESE FAILURE CRITERIA SHOULD IN NO WAY CONFLICT WITH ANY DEFINITIONS SPECIFIED BY THE PROCURING ACTIVITY. SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)
IND/LVL	INDENTURE LEVEL	ACRONYMS: PURPOSE OF DATA: PROVIDE THE ANALYST WITH DETAILED BREAKDOWN OF THE SYSTEM TO BE INVESTIGATED. THE INDENTURE LEVEL APPLIES TO THE SYSTEM HARDWARE OR FUNCTIONAL LEVEL AT WHICH FAILURES ARE POSTULATED. UNLESS OTHERWISE SPECIFIED, THE ANALYST SHALL ESTABLISH THE LOWEST INDENTURE LEVEL OF ANALYSIS. SOURCE OF DATA: PROCESS 301.2.4.1.5A2 (DEVELOP GROUND RULES AND ASSUMPTIONS)
REP/MOD/DTA	REPLACEABLE MODULE IN SYSTEM DATA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: INFORM THE ANALYST THAT THE IDENTIFIED ITEM/ITEMS ARE REPLACEABLE AND REQUIRE A SEPARATE FMEA ANALYSIS. DATA IN THIS FLOW SHALL ACT AS A PROMPT FOR A NEW FMECA PLAN TO BE DEVELOPED, AND THUS A NEW FMEA ANALYSIS FOR THE MODULE. SOURCE OF DATA: PROCESS 301.2.4.1.1A3 (DETERMINE FAILURE MODES CAUSES AND PHASES)

Name	Label	Description
TECH/SP&DEV/PLNS	TECHNICAL SPECIFICATNS & DEVELPMENT PLANS	ACRONYM: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS

PURPOSE OF DATA: ASSIST THE ANALYST IN DEVELOPING THE FMECA. TECHNICAL SPECIFICATIONS AND DEVELOPMENT PLANS DESCRIBE WHAT CONSTITUTES AND CONTRIBUTES TO THE VARIOUS TYPES OF SYSTEM FAILURE. SYSTEM OBJECTIVES WILL BE STATED, AND DESIGN AND TEST REQUIREMENTS SPECIFIED FOR OPERATION, RELIABILITY AND MAINTAINABILITY. DETAILED INFORMATION IN THE PLANS MAY PROVIDE OPERATIONAL AND FUNCTIONAL BLOCK DIAGRAMS SHOWING THE GROSS FUNCTIONS THE SYSTEM MUST PERFORM FOR SUCCESSFUL OPERATION. TIME LINES, DIAGRAMS AND CHARTS AID IN DETERMINING THE VARIOUS MEANS OF FAILURE DETECTION AND CORRECTION.

INFORMATION FOR DEVELOPING MISSION AND ENVIRONMENTAL PROFILES WILL DESCRIBE THE MISSION PERFORMANCE REQUIREMENTS IN TERMS OF FUNCTIONS AND TASKS TO BE PERFORMED, AND RELATE THEM TO THE ANTICIPATED ENVIRONMENTS FOR EACH MISSION PHASE AND OPERATING MODE. FUNCTION-TIME RELATIONSHIP OF THE ENVIRONMENTAL CONDITIONS WILL BE DEVELOPED. A DEFINITION FOR THE OPERATIONAL STRESSES THE SYSTEM IS EXPECTED TO UNDERGO, AS WELL AS FAILURE DEFINITIONS, WILL EITHER BE PROVIDED OR MUST BE DEVELOPED.
SOURCE OF DATA: CONTRACT REQUIREMENTS |
| TIM/CO/DTA | TIMING COORDINATN DATA | ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

PURPOSE OF DATA: WRITE DATA TO THE FMECA PLAN PERTAINING TO THE COORDINATION OF THE FMECA WITH THE SYSTEM'S OTHER PROGRAM EFFORTS. THE COINCIDENT PERFORMANCE AND USE OF THE FMECA BY RELIABILITY AND OTHER PROGRAM ELEMENTS SHALL BE IDENTIFIED HEREIN.
SOURCE OF DATA: 301.2.4.1.5A6 (COORDINATE FMECA WITH OTHER PROGRAM ELEMENTS) |
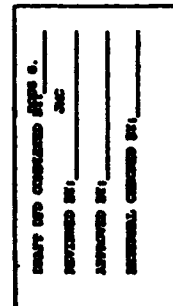
Name	Label	Description
CON/REQ	CONTRACT REQMNTS	THIS ENTITY REFERS TO REQUIREMENTS ESTABLISHED BY THE CONTRACT, AND WILL INCLUDE, AS A MINIMUM, THE FOLLOWING DATA FOR THE FMECA: 1. TECHNICAL SPECIFICATIONS AND DEVELOPMENTAL PLANS 2. ACQUISITION SCHEDULE 3. THREAT MECHANISM DATA
SYS/DET/DES	SYSTEM DETAIL DESIGNER	THIS ENTITY REFERS TO THE DESIGNER OF THE SYSTEM BEING INVESTIGATED. IT SUPPLIES ENGINEERING DESIGN DATA AND DRAWINGS.

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APPENDIX B
SUBTASK 301.2.4.1.6A
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301.2.4.1.1
301.2.4.1.1A1
FMEA DATA
FMEA DATA
SYSTEM DEFINITION
SYSTEM DEFINITION
301.2.4.1.1A1
SYSTEM DEFINITION
SYSTEM DEFINITION
301.2.4.1.6A1
PROVIDE RELIABILITY CRITICAL ITEM LIST
301.2.4.1.6A2
CREATE CATEGORY I & II FA MODE LIST
301.2.4.1.6A3
CREATE SINGLE FAILURE POINT LST
301.2.4.1.1
FMEA DATA
FMEA DATA
RELIABILITY CRITICAL ITEM LISTS
CATEGORY I AND II FAILURE MDE
SINGLE FAILURE POINTS LIST
301.2.4.1.6A4
CREATE SUMMARY AND CON FMECA
301.2.4.1.4
DMEA DATA
FMECA MAINTENANCE DATA
301.2.4.1.3
CRITICALITY ANALYSIS DATA H/MEX
301.2.4.1.2
FMECA PLAN DATA
301.2.4.1.5
FMECA REPORT
FMECA REPORT
FMECA REPORT
DES/MOD DESIGN MODIFCTN
PROG/ELS INVSTGT SYSTEM DOC ELS
PUB/FIN/REP PUBLISH FINAL REPORT

DRAFT DFD COMPLETED BY: JOHN G.
JMC
REVIEWED BY:__________
APPROVED BY:__________
INTERNAL CHECKED BY:__________

301.2.4.1.6A
Created by: [illegible]
Revised by: [illegible]
Date changed: 24-[illegible]

Name	Label	Description

301.2.4.1.6A1   PROVIDE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                RELIABLTY   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                CRITICAL
                ITEM LIST PURPOSE OF PROCESS: RELIABILITY CRITICAL ITEM LISTS EXTRACTED FROM THE
                           FMEA SHALL BE INCLUDED IN THE SUMMARY. EACH ITEM LISTED SHALL INCLUDE
                           THE FOLLOWING:
                                a. ITEM IDENTIFICATION AND FMEA CROSS-REFERENCE.
                                b. DESCRIPTION OF DESIGN FEATURES WHICH MINIMIZE THE OCCURRENCE OF
                                   FAILURE FOR THE LISTED ITEM
                                c. DESCRIPTION OF TESTS ACCOMPLISHED THAT VERIFY DESIGN FEATURES
                                   AND TESTS PLANNED AT HARDWARE ACCEPTANCE OR DURING OPERATIONS
                                   AND MAINTENENCE THAT WOULD DETECT THE FAILURE MODE OCCURRENCE.
                                d. DESCRIPTION OF PLANNED INSPECTIONS TO ENSURE HARDWARE IS BEING
                                   BUILT TO DESIGN REQUIREMENTS, AND INSPECTIONS PLANNED DURING
                                   DOWN-TIME, TURNAROUND, OR MAINTENENCE THAT COULD DETECT THE
                                   FAILURE MODE OR EVIDENCE OF CONDITIONS THAT COULD CAUSE THE
                                   FAILURE MODE.
                                e. A STATEMENT RELATING TO THE HISTORY OF THIS PARTICULAR DESIGN
                                   OR A SIMILAR DESIGN.
                                f. DESCRIPTION OF THE METHOD(S) BY WHICH THE OCCURRENCE OF THE
                                   FAILURE MODE IS DETECTED BY THE OPERATOR, AND WHETHER A FAILURE
                                   OF A REDUNDANT OR ALTERNATIVE OPERATING MODE, WHEN AVAILABLE,
                                   CAN BE DETECTED.
                                g. RATIONALE FOR NOT ELIMINATING THE RELATED FAILURE MODE(S).
                           THE ANALYST SHALL EXTRACT THIS LIST FOR THE SUMMARY OF THE FINAL
                           REPORT.
                           SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.6A2   CREATE   ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                CATEGORY   FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                I & II FA
                MODE LIST PURPOSE OF PROCESS: CREATE A LIST OF ALL CATEGORY I (CATASTROPHIC) AND
                           CATEGORY II (CRITICAL) FAILURE MODES. THE INFORMATION DESCRIBED ABOVE
                           SHALL BE PROVIDED FOR EACH CATEGORY I AND CATEGORY II FAILURE MODE, AND
                           LISTED SUCH THAT THE FMEA ENTRY AND ITS RELATED DRAWINGS AND SCHEMATICS
                           CAN BE DIRECTLY IDENTIFIED. ONCE CREATED, IT MAY BE TRANSFERRED TO
                           PROCESS 301.2.4.1.6A4 FOR INCLUSION IN THE FMECA REPORT.
                           SOURCE OF PROCESS: MIL-STD-1629A

301.2.4.1.6A3   CREATE   ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
                SINGLE
                FAILURE   PURPOSE OF PROCESS: PROVIDE A SEPARATE LIST OF ALL SINGLE FAILURE
                POINT LST POINTS. THE INFORMATION DESCRIBED ABOVE SHALL BE PROVIDED IN THE
                           SUMMARY FOR EACH SINGLE FAILURE POINT LISTED, SUCH THAT THE FMEA ENTRY
                           AND ITS RELATED DRAWINGS AND SCHEMATICS CAN BE DIRECTLY IDENTIFIED.
                           THE CRITICALITY CLASSIFICATION FOR EACH SINGLE FAILURE POINT SHALL BE
                           INCLUDED IN THE LISTING. ONCE COMPLETED, THE LIST SHALL BE SENT TO
                           PROCESS 301.2.4.1.6A4 FOR INCLUSION IN THE FMECA REPORT.
                           SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
301.2.4.1.6A4	CREATE SUMMARY AND CON FMECA	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODES AND EFFECTS ANALYSIS

PURPOSE OF PROCESS: ASSEMBLE ALL PARTS OF THE FMECA REPORT AND ARRANGE PRESENTABLE MANNER. RESULTS OF THE FMEA AND OTHER RELATED ANALYSIS SHALL BE DOCUMENTED IN A REPORT THAT IDENTIFIES THE LEVEL OF ANALYSIS, AND INCLUDES THE SYSTEM DEFINITION NARRATIVE, RESULTANT ANALYSIS DATA, AND WORKSHEETS. WORKSHEETS SHALL BE ORGANIZED TO:(1) DISPLAY THE HIGHEST INDENTURE LEVEL OF ANALYSIS, AND (2) PROCEED DOWN THROUGH DECREASING INDENTURE LEVELS OF THE SYSTEM. GROUND RULES, ANALYSIS ASSUMPTIONS, AND BLOCK DIAGRAMS SHALL BE INCLUDED, AS APPLICABLE, FOR EACH INDENTURE LEVEL ANALYZED.

INTERIM REPORTS SHALL BE AVAILABLE AT EACH DESIGN REVIEW TO PROVIDE COMPARISONS OF ALTERNATIVE DESIGNS AND TO HIGHLIGHT THE CATEGORY I AND CATEGORY II FAILURE MODES, POTENTIAL SINGLE FAILURE POINTS, AND RECOMMENDED OR PROPOSED DESIGN CORRECTIONS. THE FINAL REPORT SHALL REFLECT THE FINAL DESIGN AND PROVIDE IDENTIFICATION OF THE CATEGORY I AND CATEGORY II FAILURE MODES, AND THE SINGLE FAILURE POINTS WHICH COULD NOT BE ELIMINATED FROM THE DESIGN.

THE REPORT SHALL CONTAIN A SUMMARY OF THE CONTRACTOR'S CONCLUSIONS AND RECOMMENDATIONS BASED UPON THE ANALYSIS. CONTRACTOR INTERPRETATION AND COMMENTS CONCERNING THE ANALYSIS, AND THE INITIATED OR RECOMMENDED ACTIONS FOR THE ELIMINATION OR REDUCTION OF FAILURE RISKS, SHALL BE INCLUDED. A DESIGN EVALUATION SUMMARY OF MAJOR PROBLEMS DETECTED DURING THE ANALYSIS SHALL BE PROVIDED. A LIST OF ITEMS OMITTED FROM THE FMEA SHALL BE INCLUDED, WITH THE RATIONALE FOR EACH ITEM'S EXCLUSION. SOURCE OF PROCESS: MIL-STD-1629A

Name	Label	Description
CA/DT/W/MATR	CRITICALITY ANALYSIS DATA W/MTX	ACRONYM: CA - CRITICALITY ANALYSIS FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS LCN - LOGISTIC CONTROL NUMBER PURPOSE OF DATA: SEND TO THE FMECA REPORT ASSEMBLY. DATA CONTAINS THE RESULTS OF THE CA WHICH INCLUDE THE CA WORKSHEET AND THE MATRIX DEVELOPED THEREFROM. WORKSHEET SHALL CONTAIN THE FOLLOWING DATA FOR THE QUALITATIVE APPROACH: 1. IDENTIFICATION NUMBER (LCN) 2. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE) 3. FUNCTION 4. FAILURE MODES AND CAUSES 5. MISSION PHASE/OPERATIONAL MODE 6. SEVERITY CLASSIFICATION 7. FAILURE EFFECT PROBABILITY FOR THE QUANTITATIVE APPROACH, THE FAILURE EFFECT PROBABILITY DATA COLUMN IS DROPPED AND THE FOLLOWING DATA IS ADDED TO THAT DESCRIBED ABOVE: 7. FAILURE RATE DATA SOURCE 8. FAILURE MODE RATIO 9. FAIILURE RATE 10. OPERATING TIME 11. FAILURE MODE CRITICALITY NUMBER 12. ITEM CRITICALITY NUMBER 13. REMARKS THE MATRIX SHALL BE DRAWN AS SHOWN IN MIL-STD-1629. SOURCE OF DATA: PROCESS 301.2.4.1.2 (CONDUCT CRITICALITY ANALYSIS (TASK 102))
CAT/I/II/F/M/LST	CATEGOTY I AND II FAILURE MDE	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: WRITE TO THE FMECA REPORT, THE CATEGORY I AND II FAILURE MODE LIST, SEPARATED FROM THE FMEA ANALYSIS FROM WHICH IT WAS EXTRACTED. DATA SHALL BE PROVIDED SUCH THAT THE FMEA ENTRY AND ITS RELATED DRAWINGS AND SCHEMATICS CAN BE DIRECTLY IDENTIFIED. SOURCE OF DATA: PROCESS 301.2.4.1.6A2 (CREATE CATEGORY I AND II FAILURE MODE LIST)

Name	Label	Description
DMEA/DTA	DMEA DATA	ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS

ACRONYMS: DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
                FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
                LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSPORT THE COMPLETED DMEA WORKSHEET TO THE FMECA
FINAL REPORT CONSOLIDATION. THE DATA SHALL CONTAIN ALL OF THE
FOLLOWING:

    a. IDENTIFICATION NUMBER (LCN)
    b. ITEM/FUNCTIONAL IDENTIFICATION
    c. FUNCTION
    d. FAILURE MODES AND CAUSES
    e. MISSION PHASE/OPERATIONAL MODE
    f. SEVERITY CLASSIFICATION
    g. DAMAGE MODE
    h. DAMAGE EFFECTS
       1. LOCAL EFFECTS
       2. NEXT HIGHER LEVEL
       3. END EFFECTS
    i. REMARKS

THE DATA SHALL ALSO CONTAIN A CRITICAL COMPONENTS LISTING
DEVELOPED BY THE ANALYST IN PROCESS 301.2.4.1.4A5 (IDENTIFY CRITICAL
COMPONENTS).

SOURCE OF DATA: DMEA ANALYSIS (PROCESS 301.2.4.1.4)

| FM/MAINT/DTA | FMECA MAINTENANCE DATA | ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS |

ACRONYMS: FMECA - FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS
             LCN   - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: TRANSFER TO THE FMECA FINAL REPORT. DATA SHALL
COMPRISE A FMECA MAINTENANCE WORKSHEET, CONTAINING THE FOLLOWING:

    a. IDENTIFICATION NUMBER (LCN)
    b. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
    c. FUNCTION
    d. FAILURE MODES AND CAUSES
    e. FAILURE EFFECTS
       1. LOCAL EFFECTS
       2. NEXT HIGHER LEVEL
       3. END EFFECTS
    f. SEVERITY CLASSIFICATION
    g. FAILURE PREDICTABILITY
    h. FAILURE DETECTION MEANS
    i. BASIC MAINTENANCE ACTIONS
    j. REMARKS

SOURCE OF DATA: PROCESS 301.2.4.1.3 (CONDUCT FMECA MAINTENANCE
                         ANALYSIS)

| FM/PLN/DTA | FMECA PLAN DATA | ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS |

ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS

PURPOSE OF DATA: REVEAL THE FMECA PLAN. THE PLAN SHALL CONTAIN SAMPLE
WORKSHEET FORMATS, GROUND RULES, ANALYSIS ASSUMPTIONS, IDENTIFICATION OF
THE LOWEST INDENTURE LEVEL OF ANALYSIS, CODING SYSTEM DESCRIPTION,
FAILURE DEFINITIONS, AND IDENTIFICATION OF COINCIDENT USE OF THE FMECA
BY RELIABLITY ORGANIZATIONS AND OTHER ORGANIZATION ELEMENTS.
SOURCE OF DATA: PROCESS 301.2.4.1.5A6 (WRITE FMECA PLAN)

Name	Label	Description

FM/REP — Label: **FMECA REPORT**

ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS
           FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           DMEA - DAMAGE MODE AND EFFECTS ANALYSIS
           CA - CRITICALITY ANALYSIS

PURPOSE OF DATA: REVEAL THE FMECA ANALYSIS RESULTS FOR THE PURPOSE OF
MODIFYING THE DESIGN. THE RESULTS OF THE FMEA AND OTHER RELATED
ANALYSES SHALL BE DOCUMENTED IN A REPORT THAT IDENTIFIES THE LEVEL OF
ANALYSIS, SUMMARIZES THE RESULTS, DOCUMENTS THE DATA SOURCES AND
TECHNIQUES USED IN PERFORMING THE ANALYSIS, AND INCLUDES THE SYSTEM
DEFINITION NARRATIVE, RESULTANT ANALYSIS DATA, AND WORKSHEETS.
WORKSHEETS SHALL BE ORGANIZED TO: (1) DISPLAY THE HIGHEST INDENTURE
LEVEL OF ANALYSIS, AND (2) PROCEED DOWN THROUGH DECREASING INDENTURE
LEVELS OF THE SYSTEM. GROUND RULES, ANALYSIS ASSUMPTIONS, AND BLOCK
DIAGRAMS SHALL BE INCLUDED, AS APPLICABLE, FOR EACH INDENTURE LEVEL
ANALYZED.

   INTERIM REPORTS SHALL BE AVAILABLE AT EACH DESIGN REVIEW TO PROVIDE
COMPARISONS OF ALTERNATIVE DESIGNS AND TO HIGHLIGHT CATEGORY I AND
CATEGORY II FAILURE MODES, POTENTIAL SINGLE FAILURE POINTS, AND
PROPOSED DESIGN CORRECTIONS. FINAL REPORT SHALL REFLECT THE FINAL
DESIGN AND PROVIDE IDENTIFICATION OF THE CATEGORY I AND CATEGORY II
FAILURE MODES, THE POTENTIAL SINGLE FAILURE POINTS WHICH COULD NOT BE
ELIMINATED FROM THE DESIGN.

SOURCE OF DATA: PROCESS 301.2.4.1.6 (CONSOLIDATE FMECA ANALYSIS)
                 (MIL-STD-1629)

FME/DTA — Label: **FMEA DATA**

ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS
           LCN - LOGISTIC CONTROL NUMBER

PURPOSE OF DATA: PROVIDE COMPLETED FMEA ANALYSIS WORKSHEET FOR
TRANSFERRAL TO OTHER TASKS REQUIRING THE AFOREMENTIONED CONTENTS. DATA
IS IN A TABULAR FORM; COLUMNS WITHIN THE TABLE HOLD THE FUNCTIONAL
NARRATIVES PERTAINING TO EACH COLUMN HEADING. THE DATA IS THE SAME AS
TRANSFERRED THROUGH THE FMEA TASK UNDER THE HEADING OF FMEA WORKSHEET
DATA; HOWEVER, THIS DATA IS COMPLETE. THE FOLLOWING WILL BE FOUND IN
THE DATA BANK:

      A. IDENTIFICATION NUMBER (LCN)
      B. ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)
      C. FUNCTION
      D. FAILURE MODES AND CAUSES
      E. MISSION PHASE/OPERATIONAL MODE
      F. FAILURE EFFECTS
          a. LOCAL EFFECTS
          b. NEXT HIGHER LEVEL
          c. END EFFECTS
      G. FAILURE DETECTION MEANS
      H. COMPENSATING PROVISIONS
      I. SEVERITY CLASS
      J. REMARKS

SOURCE OF DATA: FMEA ANALYSIS TASK 101 (PROCESS 301.2.4.1.1)

Name	Label	Description
REL/CR/ITM/LST	RELIABILITY CRITICAL ITEM LISTS	ACRONYMS: FMEA - FAILURE MODE AND EFFECTS ANALYSIS FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS PURPOSE OF DATA: WRITE THE RELIABILITY CRITICAL ITEM LISTS, EXTRACTED FROM THE FMEA ANALYSIS, TO THE FMECA REPORT. SOURCE OF DATA: PROCESS 301.2.4.1.6A1 (PROVIDE RELIABILITY CRITICALITY ITEM LISTS)
SIN/F/P/LST	SINGLE FAILURE POINTS LIST	ACRONYMS: FMECA - FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS FMEA - FAILURE MODE AND EFFECTS ANALYSIS PURPOSE OF DATA: PROVIDE A SINGLE LIST OF FAILURE POINTS FOR THE FMECA REPORT. DATA SHALL BE PROVIDED SUCH THAT THE FMEA ENTRY AND ITS RELATED DRAWINGS AND SCHEMATICS CAN BE DIRECTLY IDENTIFIED. SOURCE OF DATA: PROCESS 301.2.4.1.6A3 (CREATE SINGLE FAILURE POINTS LIST)
SYS/DEF	SYSTEM DEFINITION	ACRONYM: PURPOSE OF DATA: INFORM ANALYST OF THE DEFINITION OF THE SYSTEM INVESTIGATED. SYSTEM DEFINITION IS A FUNCTIONAL NARRATIVE DEVELOPED FOR EACH MISSION, MISSION PHASE, AND OPERATIONAL MODE, WHICH INCLUDES STATEMENTS OF PRIMARY AND SECONDARY MISSION OBJECTIVES. NARRATIVES SHALL INCLUDE SYSTEM AND PART DESCRIPTIONS FOR EACH MISSION PHASE AND OPERATIONAL MODE, EXPECTED MISSION TIMES AND EQUIPMENT UTILIZATION, FUNCTIONS, OUTPUT OF EACH ITEM, AND CONDITIONS WHICH CONSTITUTE SYSTEM AND PART FAILURE. IT SHALL ALSO INCLUDE DEFINITIONS OF ENVIRONMENTAL PROFILES. ANTICIPATED ENVIRONMENTAL CONDITIONS FOR EACH MISSION AND MISSION PHASE SHALL BE PRESENTED. IF REQUIRED BY CONTRACT, SYSTEM DEFINITION SHALL ALSO INCLUDE FUNCTIONAL AND RELIABILITY BLOCK DIAGRAMS. SOURCE OF DATA: PROCESS 301.2.4.1.1A1 (CREATE SYSTEM DEFINITION)

Name	Label	Description
DES/MOD	DESIGN MODIFCTN	THIS ENTITY REFERS TO ACTIVITIES THAT DEVELOP AND/OR ADDRESS THOSE DESIGN MODIFICATIONS INITIATED BY THE FMECA ANALYSIS RECOMMENDATIONS. EACH OF THESE ACTIVITIES/AGENCIES SHALL RECEIVE A REPORT OF THE INDIVIDUAL FMECA ANALYSIS.
PROG/ELE	INVSTGTD SYSTEM DIAGRAM ELEMENTS	THIS ENTITY BRANCHES TO OTHER ELEMENTS (BESIDES FMECA) WHOSE DATA IS USED BY THE FMECA AND/OR WHO NEED DATA FROM THE FMECA ANALYSIS.
PUB/FIN/REP	PUBLISH FINAL REPORT	ONCE COMPLETE, THE FMECA REPORT SHALL BE PUBLISHED AND DISTRIBUTED THROUGH THIS ENTITY.

GLOSSARY

AMSDL	Acquisition Management Systems and Data Requirements Control List
APJ	American Power Jet Company
AR	Army Regulation
DFD	Data Flow Diagram
DID	Data Item Description
DMEA	Damage Mode and Effects Analysis
FMEA	Failure Mode and Effects Analysis
FMECA	Failure Mode, Effects, and Criticality Analysis (FMECA)
ILS	Integrated Logistic Support
LSA	Logistic Support Analysis
LSAR	Logistic Support Analysis Report
PAM	Pamphlet
MIL-STD	Military Standard
SSAD	Structured Systems Analysis and Design